Drinking Water Surveillance Program

FORT FRANCES WATER TREATMENT PLANT

Annual Report 1989

Ontario
Environment
Environnement

ISSN 0843-8358

FORT FRANCES
WATER TREATMENT PLANT

DRINKING WATER SURVEILLANCE PROGRAM

ANNUAL REPORT 1989

Cette publication technique n'est disponible qu'en anglais.

January 1991

Copyright: Queen's Printer for Ontario, 1991
This publication may be reproduced for non-commercial purposes
with appropriate attribution.

PIBS 1404

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

FORT FRANCES WATER TREATMENT PLANT
1989 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, there were 65 plants being monitored.

The Fort Frances Water Treatment Plant is a conventional treatment plant which treats water from Rainy Lake. The treatment process consists of coagulation, flocculation, clarification, filtration, disinfection, fluoridation and corrosion control. This plant has a design capacity of 16.9 x 1000 m^3/day and serves a population of approximately 8,880.

Water samples of the raw and treated water from the plant and from two distribution system sites were taken on a monthly basis and sampled for approximately 180 parameters. Parameters were divided into the following groups: Bacteriological, Inorganic and Physical (Laboratory Chemistry, Field Chemistry and Metals) and Organic (Chloroaromatics, Chlorophenols, Pesticides and PCB, Phenolics, Polynuclear Aromatic Hydrocarbons, Specific Pesticides and Volatiles). Chlorophenols and Specific Pesticides were analyzed for in November only. Phenols and PAHs are only analyzed in the water from the plant.

A summary of results is shown in Table A.

Inorganic and Physical parameters were below any applicable health related ODWOs.

Of a total of approximately 110 Organic parameters tested monthly basis, none exceeded health related guidelines.

During 1989 the DWSP sampling results indicated that the Fort Frances Water Treatment Plant produced good quality water at the plant and this quality was maintained in the distribution system.

TABLE A

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP

SUMMARY TABLE BY SCAN

SCAN	RAW			TREATED			SITE 1			SITE 3		
	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE
BACTERIOLOGICAL	3	0	0	3	1	33	3	1	33	.	.	.
CHEMISTRY (FLD)	37	31	83	71	71	100	110	110	100	105	105	100
CHEMISTRY (LAB)	202	153	75	222	166	74	343	292	85	353	302	85
METALS	264	112	42	288	108	37	493	209	42	517	208	40
CHLOROAROMATICS	126	0	0	168	0	0	154	0	0	154	0	0
CHLOROPHENOLS	6	0	0	6	0	0	.	.	.	.	.	.
PAH	158	0	0	188	0	0	.	.	.	.	.	.
PESTICIDES & PCB	293	0	0	395	0	0	309	0	0	309	0	0
PHENOLICS	9	9	100	10	9	90	.	.	.	.	.	.
SPECIFIC PESTICIDES	36	0	0	39	0	0	11	0	0	11	0	0
VOLATILES	290	0	0	348	39	11	290	30	10	319	36	11
TOTAL	1424	305		1738	394		1713	642		1768	651	

NO KNOWN HEALTH RELATED GUIDELINES WERE EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
A '.' INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

FORT FRANCES WATER TREATMENT PLANT

1989 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, 65 plants were being monitored. Appendix A contains a detailed description of the DWSP.

The DWSP was initiated at the Fort Frances Water Treatment Plant in October 1988 but was only sampled once that year.

This report contains information and results for 1989.

PLANT DESCRIPTION

The Fort Frances Water Treatment Plant is a conventional treatment plant which treats water from Rainy Lake. The process consists of coagulation, flocculation, clarification, filtration, disinfection, fluoridation and corrosion control. A polyelectrolyte is added as a coagulant aid. This plant has a design capacity of 16.9 x 1000 m^3/day and sample day flows ranging from 3.5 x 1000 m^3/day to 9.1

x 1000 m^3/day. It serves a population of 8,880.

The plant location is shown in Figure 1. Plant process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

SAMPLE LOCATIONS

Water samples were obtained from four DWSP approved locations;

i) Plant Raw - The water originated from the raw water influent prior to chemical addition and was sampled through a stainless steel sample line. The sample tap is located near the lowlift discharge.

ii) Plant Treated - The water originated from the highlift discharge after addition of all treatment chemicals and was sampled through a stainless steel sample line. The location of the sample tap is unavailable.

iii) Distribution System - Site 1 - The distance of this house from the plant and the material that the water was sampled through is unknown.

iv) Distribution System - Site 3 - The distance of this house from the plant and the material that the water was sampled through is unknown.

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM

SITE LOCATION MAP

FORT FRANCES WATER TREATMENT PLANT

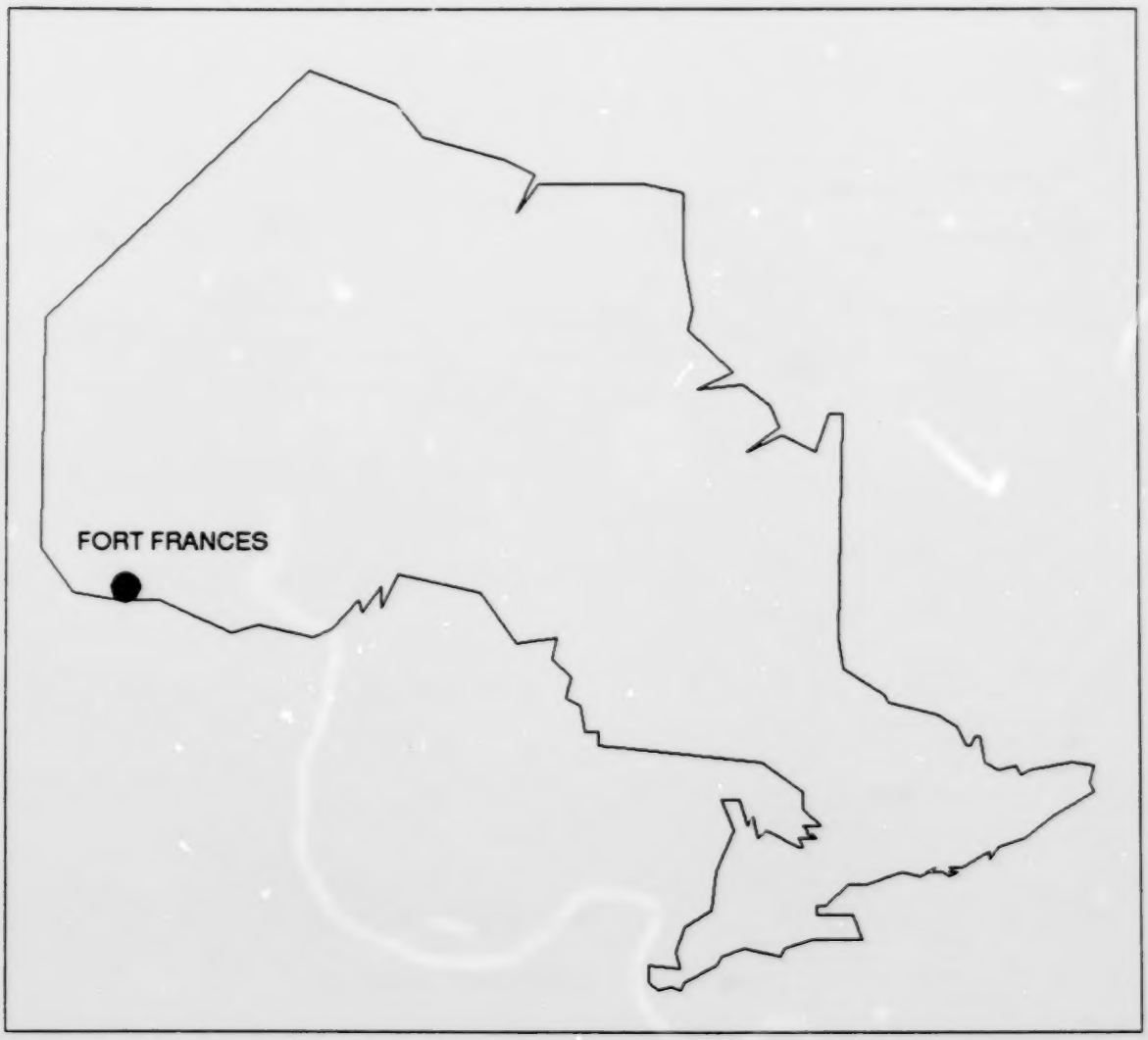

FIGURE No 2

FORT FRANCES WTP

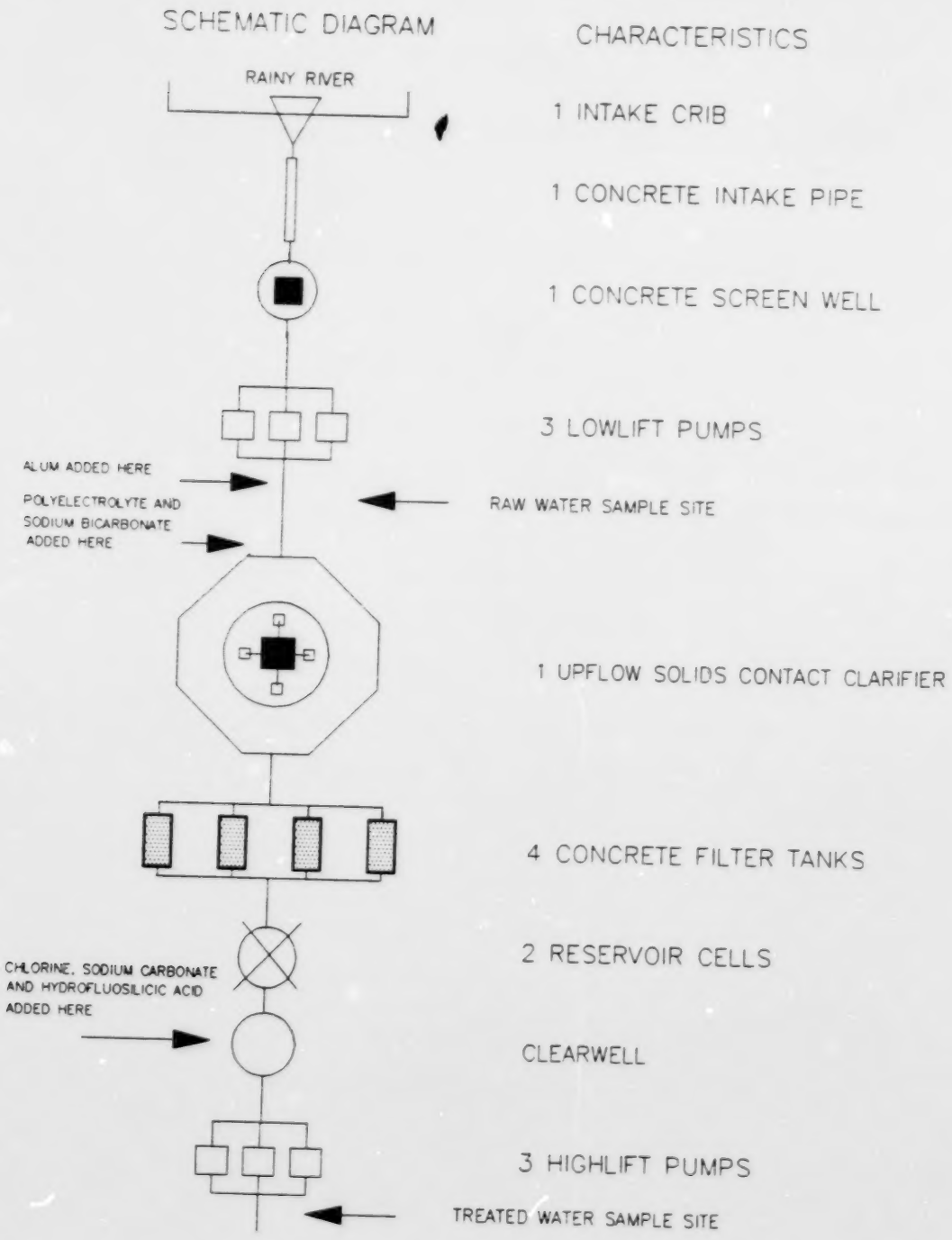

TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

IN-PLANT MONITORING FORT FRANCES WTP 1989

PARAMETER	LOCATION	FREQUENCY
Aluminum	Treated water	every 2nd day
Chlorine residual - total	Treated water	every 2nd day
Fluoride	Treated water	every 2nd day
pH	Treated water	every 2nd day
Temperature		continuous
Turbidity	Treated water	every 2nd day

TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

GENERAL INFORMATION

FORT FRANCES WATER TREATMENT PLANT

LOCATION:	PO BOX 38 FORT FRANCES, ONTARIO
(807-274-9893)	
SOURCE:	RAW WATER SOURCE - RAINY LAKE
DESIGN CAPACITY:	16.9 (1000 M^3/DAY)
OPERATION:	MUNICIPAL
PLANT SUPERINTENDENT :	E. PERRY
MINISTRY REGION:	NORTHWEST
DISTRICT OFFICER:	P. FOX

MUNICIPALITY SERVED	POPULATION
FORT FRANCES	8,880

SAMPLING AND ANALYSES

Sample lines in the plant were flushed prior to sampling to ensure that the water obtained was indicative of its origin and not residual water standing in the sample line.

At the distribution system location two types of samples were obtained: a standing and a free flow. The standing sample consisted of water that had been in the household plumbing and service connection for a minimum of six hours. These samples are used to make an assessment of the amount by which the levels of inorganic compounds and metals may be changed on standing due to leaching from (or deposition on) the plumbing system. The only analyses carried out on the standing samples therefore, are General Chemistry and Metals. The free flow sample represented fresh water from the distribution main that had been flowing at the sample tap for five minutes before being sampled.

Attempts were made to capture the same block of water at each sampling point by taking the retention time into consideration. The retention time was calculated by dividing the volume of water between the two sampling points by the sample day flow. For example, if it was determined that the retention time within the plant was five hours then there would be a five hour interval between the raw and treated sampling. Similarly, if it was estimated that it took approximately one day for the water to travel from the plant to the distribution system site, this site

would be sampled one day after the treated water from the plant.

Stringent DWSP sampling protocols were followed to ensure that all samples were taken in a uniform manner (APPENDIX B).

Plant operating personnel perform analyses on parameters for process control (Table 1).

The Fort Frances Water Treatment Plant and two locations in the distribution system were sampled for approximately 180 parameters on a monthly basis beginning in October 1988. The Specific Pesticides and Chlorophenols scans were sampled in November only. Polyaromatic Hydrocarbons and Phenolics were only analyzed in the raw and treated water at the plant. As of August the triazine pesticides were only analyzed in the raw and treated water. Laboratory analysis was conducted at the Ministry of the Environment facilities in Rexdale, Ontario.

RESULTS

Field Chemistry measurements were recorded on the day of sampling and were entered on the DWSP data base as submitted by plant personnel.

Table 3 contains information on the sample day retention time, flow rate and treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples analyzed for by parameter and by water type. The number of times that a positive or trace result was detected is also reported.

Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment (MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 lists all parameters analyzed in the DWSP.

Associated guidelines and detection limits are also supplied on both tables. Parameters are listed alphabetically within each scan.

DISCUSSION

General

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWOs) as defined in the 1984 publication (ISBN

0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters, these are currently under review. When an ODWO is not available guidelines/limits from other agencies are consulted. The Parameters Listing System (PALIS) recently published (ISBN 0-7729-4461-X) by the MOE catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

Many of the compounds detected are naturally occurring or are treatment by-products.

Plant operational personnel address occurrences of taste and odour or biological water quality parameters. The DWSP does not assess these aspects of the water supply.

As stated under Results, traces do not indicate quantifiable values, as defined by established MOE Laboratory analytical reporting protocols. The occasional finding of a trace level of a contaminant is thus not considered to be significant. They can be useful in trend analysis, or confirmation of the presence of a specific contaminant that is repeatedly detected at these levels. **DISCUSSION OF GUIDELINES AND LIMITS THEREFORE, IS ONLY CONDUCTED ON POSITIVE RESULTS.**

Bacteriology

Bacteriological analyses were only carried out in June, all other samples were not received at the laboratory within the allotted time for analysis.

Standard Plate Count is a test used to supplement routine analysis for Coliform bacteria. The limit for Standard Plate Count (at 35°C after 48 hours) in the ODWOs is 500 organisms per mL (based on a geometric mean of 5 or more samples). The June treated water sample and Site 1 water had high Standard Plate Counts.
Routine Bacteriological monitoring as recommended in the ODWOs is carried out by the operating authority.

Inorganic and Physical Parameters

Laboratory and Field Chemistry

The results for Laboratory and Field Chemistry scans were below any applicable health related ODWOs.

Colour values exceeded the aesthetic ODWO of 5 True Colour Units (TCU) in three treated water samples, standing and free flow samples. Colour in drinking water may be due to the presence of natural or synthetic organic substances as well as certain metallic ions.

As part of the treatment plant process, hydrofluosilicic acid is added to the treated water (Table 3). Where fluoridation is practised, the Fluoride concentration recommended in the ODWO is 1.2 mg/L, plus or minus 0.2 mg/L. This level was generally not maintained as can be noted in the fluoride results reported in Table 5.

It is desirable that the Temperature of drinking water be less than 15°C; the palatability of water is enhanced by its coolness. A temperature below 15°C will tend to reduce the growth of nuisance organisms and hence minimize associated taste, colour, odour and corrosion problems. The temperature of the delivered water may increase in the distribution system due to the warming effect of the soil in late summer and fall and/or as a result of higher temperatures in the source water. The desired ODWO was exceeded seven times in the treated water and free flow distributed water.

The Langelier Index is used extensively in estimating the corrosion potential of water. An increasingly negative index indicates the increasing possibility of corrosion. It is considered sound engineering practice to maintain a slightly positive Langelier Index. The Langelier Index for Fort Frances is consistently negative.

Turbidity in water is caused by the presence of suspended matter such as clay, silt, colloidal particles, plankton and other

microscopic organisms. The most important potential health effect of Turbidity is its interference with disinfection in the treatment plant and the maintenance of a chlorine residual. The ODWO of 1 Formazin Turbidity Unit (FTU) is only applicable to treated water leaving the plant. The October value reported by the laboratory of 3.3 FTU was not supported by the field turbidity value. Protocol for turbidity states that measurements should be made within 48 hours. This is not always achieved except when measured in the field, the field turbidity values are therefore considered the more reliable.

Metals

The results reported for the Metal scan were below any applicable ODWOs.

Levels of Copper, Iron, Nickel, Lead and Zinc were higher in the standing samples as compared to the free flow distribution samples, indicating that these metals were leached from the household plumbing as the water stood overnight. The Langelier Index indicates that corrosion would be expected.

At present, there is no evidence that Aluminum is physiologically harmful and no health limit for drinking water has been specified. The measure of residual Aluminum in the treated water is important to indicate efficiency of the treatment process. The ODWOs indicate that a useful guideline is to maintain a residual below 0.1 mg/L

as Al in the water leaving the plant. Aluminum values exceeded the ODWO operational guideline eleven times in the treated water.

Organic Parameters

Chloroaromatics

The results of the Chloroaromatics scan showed that no chloroaromatics were detected.

Chlorophenols

The results of the Chlorophenol scan showed that no Chlorophenols were detected.

Pesticides and PCB

Results of the Pesticides and PCB scan showed that no PCBs were detected and that one pesticide was detected:

Alpha BHC

There are several isomers of BHC (benzene hexachloride); gamma BHC is the active ingredient of the pesticide Lindane, while alpha BHC is the isomer most predominantly found in surface waters of the Great Lakes basin as indicated by results from other water supplies on DWSP.

Alpha BHC was detected at trace levels, twice in the raw water, five times in the treated water, three times in the Site 1 water

and four times in the Site 3 water.

Specific Pesticides

The results of the Specific Pesticide scan showed that none were detected.

Phenolics

Phenolics were detected nine times in the raw water, ranging from 1 µg/L to 5.2 µg/L and nine times in the treated water, ranging from 1 µg/L to 4.6 µg/L. The maximum desirable concentration of phenolic substances in drinking water is 2.0 µg/L. This limit has been set primarily to prevent the occurrence of undesirable tastes and odours, particularly in chlorinated water. Phenolic compounds are present in the aquatic environment as a result of natural and/or industrial processes.

Polynuclear Aromatic Hydrocarbons (PAH)

The results of the PAH scan showed that no PAHs were detected.

Volatiles

The results of the Volatile scan showed that eight parameters, other than Trihalomethanes(THMs) were detected:

Toluene

Ethylbenzene

Meta-Xylene

Ortho-Xylene

Styrene

1,1,1-Trichloroethane

Tetrachloroethylene

1,4-Dichlorobenzene

Plant personnel were painting floors in December at the same time that DWSP samples were being collected. This accounts for the positive occurrences of ethylbenzene and meta- and ortho-xylene.

The detection of benzene, ethylbenzene, toluene and the xylenes at low, trace levels is a laboratory artifact derived from the analytical methodology.

Ethylbenzene was detected in the December treated water (8.95 µg/L) and Site 3 water (12.0 µg/L). The aesthetic objective used by Health and Welfare Canada for ethylbenzene in water is 2.4 µg/L. Ethylbenzene was also detected at trace levels, once in the raw water, three times in the treated water, four times in the Site 1 water and eight times in the Site 3 water.

Meta-Xylene (M-Xylene) was detected in the December treated water (39.5 µg/L) and the Site 3 water (52.7 µg/L). The aesthetic objective for Total Xylenes in drinking water used by Health and Welfare Canada is 300 µg/L. Meta-Xylene was also detected at trace levels, once in the raw water and five times in the Site 3 water.

Ortho-Xylene (O-Xylene) was detected in the December treated water (15.95 µg/L) and the Site 3 water (19.25 µg/L). The aesthetic objective for Total Xylenes in drinking water used by Health and Welfare Canada is 300 µg/L. Ortho-Xylene was also detected at trace levels, three times in the treated water, twice in the Site 1 water and eight times in the Site 3 water.

The detected trace levels of Styrene are also considered to be laboratory artifacts resulting from the polystyrene shipping containers. The sporadic background levels from this source are in the order of 0.05 µg/L.

1,1,1-Trichloroethane was detected at trace levels, three times in the raw water and once in the Site 3 water.

Tetrachloroethylene was detected at trace levels, once in the treated water and once in the Site 1 water.

1,4-Dichlorobenzene was detected at trace levels, once in the raw water and once in the treated water.

THMs are known to be produced during the water treatment process and will always occur in chlorinated surface waters. THMs are comprised of Chloroform, Chlorodibromomethane and Dichlorobromomethane. Bromoform occurs occasionally. Results are reported for the individual compounds as well as for total THMs.

Chloroform, Dichlorobromomethane and Total THMs were detected in all treated waters. Chlorodibromomethane was detected at trace levels, three times in the treated water, once in the Site 1 water and four times in the Site 3 water. Bromoform was not detected. All Total THM occurrences, ranging from 81 µg/L to 145 µg/L were well below the ODWO of 350 µg/L.

CONCLUSIONS

The Fort Frances Water Treatment Plant for the sampling period of 1989 produced good quality water at the plant and this was maintained in the distribution system.

No health related guidelines, for organic or inorganic parameters, were exceeded during 1988.

RECOMMENDATIONS

One recommendation can be made:

1) The fluoridation process may require modification to ensure that the recommended level is maintained.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP SAMPLE DAY CONDITIONS FOR 1989

SAMPLE DAY CONDITIONS			TREATMENT CHEMICAL DOSAGES (MG/L)					
			COAGULATION	COAGULATION AID	CORROSION CONTROL		FLUORIDATION	POST-CHLORINATION
			ALUM LIQUID	POLYELECTROLYTE	SODIUM BICARBONATE	SODIUM CARBONATE	HYDROFLUOSILICIC ACID	CHLORINE
DATE	RETENTION TIME(HRS)	FLOW (1000M3)						
FEB 03	4.5	3.5	30.00	.50	15.00	.	1.20	1.50
MAR 30	4.0	6.7	45.00	.50	.	.	1.00	1.50
APR 25	2.0	.	4.00	.50	14.00	.	1.10	1.30
MAY 24	4.5	5.8	70.00	.50	.	16.00	1.15	1.60
JUN 27	4.5	6.2	70.00	.50	15.00	.	1.20	2.00
JUL 25	2.6	9.1	70.00	.50	.	13.00	1.20	2.25
AUG 23	4.5	6.4	55.00	.50	.	12.00	1.20	1.50
OCT 02	4.0	5.1	45.00	.50	.	.	.	1.30
NOV 01	4.0	5.6	40.00	.50	.	10.00	1.20	1.20
NOV 06	1.5	4.8	40.00	.50	.	10.00	1.20	1.20
NOV 28	8.0	5.2	40.00	.50	.	9.50	1.20	1.50
DEC 12	6.5	5.0	40.00	.50	.	4.00	1.20	1.30

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	RAW			TREATED			SITE 1			SITE 3		
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
BACTERIOLOGICAL	FECAL COLIFORM MF	1	0	0	.	.	.	.	.	.	.	.	.
	STANDRD PLATE CNT MF	.	.	.	1	1	0	1	1	0	.	.	.
	TOTAL COLIFORM MF	1	0	0	1	0	0	1	0	0	.	.	.
	T COLIFORM BCKGRD MF	1	0	0	1	0	0	1	0	0	.	.	.
*TOTAL SCAN BACTERIOLOGICAL		3	0	0	3	1	0	3	1	0	0	0	0
*TOTAL GROUP BACTERIOLOGICAL		3	0	0	3	1	0	3	1	0	0	0	0
CHEMISTRY (FLD)	FLD CHLORINE (COMB)	2	0	0	12	12	0	22	22	0	21	21	0
	FLD CHLORINE FREE	2	0	0	12	12	0	22	22	0	21	21	0
	FLD CHLORINE (TOTAL)	2	0	0	12	12	0	22	22	0	21	21	0
	FLD PH	10	10	0	11	11	0	22	22	0	21	21	0
	FLD TEMPERATURE	11	11	0	12	12	0	22	22	0	21	21	0
	FLD TURBIDITY	10	10	0	12	12	0	.	.	.	.	.	.
*TOTAL SCAN CHEMISTRY (FLD)		37	31	0	71	71	0	110	110	0	105	105	0
CHEMISTRY (LAB)	ALKALINITY	10	10	0	11	11	0	19	19	0	20	20	0
	CALCIUM	10	10	0	11	11	0	20	20	0	20	20	0
	CYANIDE	11	0	0	12	0	0	11	0	0	11	0	0
	CHLORIDE	10	4	6	11	11	0	19	19	0	20	20	0
	COLOUR	10	10	0	11	10	1	19	17	2	20	19	1
	CONDUCTIVITY	10	10	0	11	11	0	19	19	0	20	20	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
CHLOROAROMATICS	1234 T-CHLOROBENZENE	9	0	0	12	0	0	11	0	0	11	0	0
	1235 T-CHLOROBENZENE	9	0	0	12	0	0	11	0	0	11	0	0
	124 TRICHLOROBENZENE	9	0	0	12	0	0	11	0	0	11	0	0
	1245 T-CHLOROBENZENE	9	0	0	12	0	0	11	0	0	11	0	0
	135 TRICHLOROBENZENE	9	0	0	12	0	0	11	0	0	11	0	0
	HCB	9	0	0	12	0	0	11	0	0	11	0	0
	HEXACHLOROETHANE	9	0	0	12	0	0	11	0	0	11	0	0
	OCTACHLOROSTYRENE	9	0	0	12	0	0	11	0	0	11	0	0
	PENTACHLOROBENZENE	9	0	0	12	0	0	11	0	0	11	0	0
	236 TRICHLOROTOLUENE	9	0	0	12	0	0	11	0	0	11	0	0
	245 TRICHLOROTOLUENE	9	0	0	12	0	0	11	0	0	11	0	0
	26A TRICHLOROTOLUENE	9	0	0	12	0	0	11	0	0	11	0	0
*TOTAL SCAN CHLOROAROMATICS		126	0	0	168	0	0	154	0	0	154	0	0
CHLOROPHENOLS	234 TRICHLOROPHENOL	1	0	0	1	0	0	.	.	.	.	.	.
	2345 T-CHLOROPHENOL	1	0	0	1	0	0	.	.	.	.	.	.
	2356 T-CHLOROPHENOL	1	0	0	1	0	0	.	.	.	.	.	.
	245-TRICHLOROPHENOL	1	0	0	1	0	0	.	.	.	.	.	.
	246-TRICHLOROPHENOL	1	0	0	1	0	0	.	.	.	.	.	.
	PENTACHLOROPHENOL	1	0	0	1	0	0	.	.	.	.	.	.
*TOTAL SCAN CHLOROPHENOLS		6	0	0	6	0	0	0	0	0	0	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 3		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
METALS	CADMIUM	11	0	0	12	0	2	21	0	6	22	0	5
	COBALT	11	0	11	12	0	12	21	0	21	22	0	22
	CHROMIUM	11	3	6	12	4	4	21	5	4	22	4	3
	COPPER	11	9	2	12	11	1	21	21	0	22	22	0
	IRON	11	11	0	12	1	6	21	2	14	22	4	13
	MERCURY	11	2	1	12	2	1	10	5	0	11	1	1
	MANGANESE	11	11	0	12	12	0	21	21	0	22	22	0
	MOLYBDENUM	11	0	10	12	0	12	21	0	21	22	0	22
	NICKEL	11	1	9	12	0	11	21	2	16	22	3	19
	LEAD	11	7	4	12	6	6	21	21	0	22	21	1
	ANTIMONY	11	9	2	12	10	2	21	21	0	22	17	5
	SELENIUM	11	0	2	12	0	2	21	0	4	22	0	3
	STRONTIUM	11	11	0	12	12	0	21	21	0	22	22	0
	TITANIUM	11	10	1	12	10	2	21	19	2	22	17	5
	THALLIUM	11	0	2	12	0	1	21	0	5	22	0	5
	URANIUM	11	1	9	12	0	4	21	0	9	22	0	9
	VANADIUM	11	0	11	12	0	11	21	0	21	22	0	22
	ZINC	11	11	0	12	12	0	21	21	0	22	22	0
*TOTAL SCAN METALS		264	112	93	288	108	104	493	209	173	517	208	173
*TOTAL GROUP INORGANIC & PHYSICAL		503	296	125	581	345	138	946	611	205	975	615	200
CHLORGAROMATICS	HEXACHLOROBUTADIENE	9	0	0	12	0	0	11	0	0	11	0	0
	123 TRICHLOROBENZENE	9	0	0	12	0	0	11	0	0	11	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
CHEMISTRY (LAB)	FLUORIDE	10	2	8	11	11	0	20	19	0	20	20	0
	HARDNESS	10	10	0	11	11	0	20	20	0	20	20	0
	IONCAL	11	10	0	12	11	0	22	19	0	22	20	0
	LANGELIERS INDEX	0	0	0	0	0	0	0	0	0	0	0	0
	MAGNESIUM	10	10	0	11	11	0	20	20	0	20	20	0
	SODIUM	10	10	0	11	11	0	20	20	0	20	20	0
	AMMONIUM TOTAL	10	7	1	11	2	6	19	5	10	20	4	8
	NITRITE	10	2	8	11	1	9	19	4	15	20	2	15
	TOTAL NITRATES	10	10	0	11	9	2	19	15	4	20	17	3
	NITROGEN TOT KJELD	10	10	0	11	11	0	19	19	0	20	20	0
	PH	10	10	0	11	11	0	19	19	0	20	20	0
	PHOSPHORUS FIL REACT	10	0	7	11	2	5	.	.	.	.	.	.
	PHOSPHORUS TOTAL	10	9	1	11	0	10	.	.	.	.	.	.
	SULPHATE	10	9	1	11	11	0	19	19	0	20	20	0
	TURBIDITY	10	10	0	11	10	1	20	19	1	20	20	0
*TOTAL SCAN CHEMISTRY (LAB)		202	153	32	222	166	34	343	292	32	353	302	27
METALS	SILVER	11	0	1	12	0	2	21	0	6	22	0	2
	ALUMINUM	11	11	0	12	12	0	21	21	0	22	22	0
	ARSENIC	11	2	9	12	2	10	21	4	17	22	7	15
	BARIUM	11	11	0	12	12	0	21	21	0	22	22	0
	BORON	11	2	9	12	2	10	21	4	17	22	2	20
	BERYLLIUM	11	0	4	12	0	5	21	0	10	22	0	1

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 3		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PAH	PHENANTHRENE	10	0	0	12	0	0	.	.	.	.	.	.
	ANTHRACENE	10	0	0	12	0	0	.	.	.	.	.	.
	FLUORANTHENE	10	0	0	12	0	0	.	.	.	.	.	.
	PYRENE	10	0	0	12	0	0	.	.	.	.	.	.
	BENZO(A)ANTHRACENE	10	0	0	12	0	0	.	.	.	.	.	.
	CHRYSENE	10	0	0	12	0	0	.	.	.	.	.	.
	DIMETH. BENZ(A)ANTHR	4	0	0	4	0	0	.	.	.	.	.	.
	BENZO(E) PYRENE	10	0	0	12	0	0	.	.	.	.	.	.
	BENZO(B) FLUORANTHEN	10	0	0	12	0	0	.	.	.	.	.	.
	PERYLENE	10	0	0	12	0	0	.	.	.	.	.	.
	BENZO(K) FLUORANTHEN	10	0	0	12	0	0	.	.	.	.	.	.
	BENZO(A) PYRENE	4	0	0	4	0	0	.	.	.	.	.	.
	BENZO(G,H,I) PERYLEN	10	0	0	12	0	0	.	.	.	.	.	.
	DIBENZO(A,H) ANTHRAC	10	0	0	12	0	0	.	.	.	.	.	.
	INDENO(1,2,3-C,D) PY	10	0	0	12	0	0	.	.	.	.	.	.
	BENZO(B) CHRYSENE	10	0	0	12	0	0	.	.	.	.	.	.
	CORONENE	10	0	0	12	0	0	.	.	.	.	.	.
*TOTAL SCAN PAH		158	0	0	188	0	0	0	0	0	0	0	0
PESTICIDES & PCB	ALDRIN	9	0	0	12	0	0	11	0	0	11	0	0
	ALPHA BHC	9	0	2	12	0	5	11	0	3	11	0	4
	BETA BHC	9	0	0	12	0	0	11	0	0	11	0	0
	LINDANE	9	0	0	12	0	0	11	0	0	11	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 3		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PESTICIDES & PCB	ALPHA CHLORDANE	9	0	0	12	0	0	11	0	0	11	0	0
	GAMMA CHLORDANE	9	0	0	12	0	0	11	0	0	11	0	0
	DIELDRIN	9	0	0	12	0	0	11	0	0	11	0	0
	METHOXYCHLOR	9	0	0	12	0	0	11	0	0	11	0	0
	ENDOSULFAN I	9	0	0	12	0	0	11	0	0	11	0	0
	ENDOSULFAN II	9	0	0	12	0	0	11	0	0	11	0	0
	ENDRIN	9	0	0	12	0	0	11	0	0	11	0	0
	ENDOSULFAN SULPHATE	9	0	0	12	0	0	11	0	0	11	0	0
	HEPTACHLOR EPOXIDE	9	0	0	12	0	0	11	0	0	11	0	0
	HEPTACHLOR	9	0	0	12	0	0	11	0	0	11	0	0
	MIREX	9	0	0	12	0	0	11	0	0	11	0	0
	OXYCHLORDANE	9	0	0	12	0	0	11	0	0	11	0	0
	OPDDT	9	0	0	12	0	0	11	0	0	11	0	0
	PCB	9	0	0	12	0	0	11	0	0	11	0	0
	DDD	9	0	0	12	0	0	11	0	0	11	0	0
	PPDDE	9	0	0	12	0	0	11	0	0	11	0	0
	PPDDT	9	0	0	12	0	0	11	0	0	11	0	0
	AMETRINE	8	0	0	11	0	0	6	0	0	6	0	0
	ATRAZINE	8	0	0	11	0	0	6	0	0	6	0	0
	ATRATONE	8	0	0	11	0	0	6	0	0	6	0	0
	CYANAZINE (BLADEX)	8	0	0	11	0	0	6	0	0	6	0	0
	D-ETHYL ATRAZINE	8	0	0	11	0	0	6	0	0	6	0	0
	D-ETHYL SIMAZINE	8	0	0	11	0	0	6	0	0	6	0	0
	PROMETONE	8	0	0	11	0	0	6	0	0	6	0	0
	PROPAZINE	8	0	0	11	0	0	6	0	0	6	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
PESTICIDES & PCB	PROMETRYNE	8	0	0	11	0	0	6	0	0	6	0	0
	METRIBUZIN (SENCOR)	8	0	0	11	0	0	6	0	0	6	0	0
	SIMAZINE	8	0	0	11	0	0	6	0	0	6	0	0
	ALACHLOR (LASSO)	8	0	0	11	0	0	6	0	0	6	0	0
	METOLACHLOR	8	0	0	11	0	0	6	0	0	6	0	0
*TOTAL SCAN PESTICIDES & PCB		293	0	2	395	0	5	309	0	3	309	0	4
PHENOLICS	PHENOLICS	9	9	0	10	9	1	.	.	.	.	.	.
*TOTAL SCAN PHENOLICS		9	9	0	10	9	1	0	0	0	0	0	0
SPECIFIC PESTICIDES	TOXAPHENE	9	0	0	12	0	0	11	0	0	11	0	0
	2,4,5-T	1	0	0	1	0	0	.	.	.	.	.	.
	2,4-D	1	0	0	1	0	0	.	.	.	.	.	.
	2,4-DB	1	0	0	1	0	0	.	.	.	.	.	.
	2,4 D PROPIONIC ACID	1	0	0	1	0	0	.	.	.	.	.	.
	DICAMBA	1	0	0	1	0	0	.	.	.	.	.	.
	PICHLORAM	0	0	0	0	0	0	.	.	.	.	.	.
	SILVEX	1	0	0	1	0	0	.	.	.	.	.	.
	DIAZINON	1	0	0	1	0	0	.	.	.	.	.	.
	DICHLOROVOS	1	0	0	1	0	0	.	.	.	.	.	.
	CHLORPYRIFOS	1	0	0	1	0	0	.	.	.	.	.	.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 3		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
SPECIFIC PESTICIDES	ETHION	1	0	0	1	0	0	.	.	.	.	.	.
	AZINPHOS-METHYL	0	0	0	0	0	0	.	.	.	.	.	.
	MALATHION	1	0	0	1	0	0	.	.	.	.	.	.
	MEVINPHOS	1	0	0	1	0	0	.	.	.	.	.	.
	METHYL PARATHION	1	0	0	1	0	0	.	.	.	.	.	.
	METHYLTRITHION	1	0	0	1	0	0	.	.	.	.	.	.
	PARATHION	1	0	0	1	0	0	.	.	.	.	.	.
	PHORATE	1	0	0	1	0	0	.	.	.	.	.	.
	RELDAN	1	0	0	1	0	0	.	.	.	.	.	.
	RONNEL	1	0	0	1	0	0	.	.	.	.	.	.
	AMINOCARB	0	0	0	0	0	0	.	.	.	.	.	.
	BENOMYL	1	0	0	1	0	0	.	.	.	.	.	.
	BUX	0	0	0	0	0	0	.	.	.	.	.	.
	CARBOFURAN	1	0	0	1	0	0	.	.	.	.	.	.
	CICP	1	0	0	1	0	0	.	.	.	.	.	.
	DIALLATE	1	0	0	1	0	0	.	.	.	.	.	.
	EPTAM	1	0	0	1	0	0	.	.	.	.	.	.
	IPC	1	0	0	1	0	0	.	.	.	.	.	.
	PROPOXUR	1	0	0	1	0	0	.	.	.	.	.	.
	CARBARYL	1	0	0	1	0	0	.	.	.	.	.	.
	BUTYLATE	1	0	0	1	0	0	.	.	.	.	.	.
*TOTAL SCAN SPECIFIC PESTICIDES		36	0	0	39	0	0	11	0	0	11	0	0
VOLATILES	BENZENE	10	0	0	12	0	0	10	0	0	11	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
VOLATILES	TOLUENE	10	0	2	12	0	6	10	0	7	11	0	10
	ETHYLBENZENE	10	0	1	12	1	3	10	0	4	11	1	8
	P-XYLENE	10	0	0	12	0	0	10	0	0	11	0	0
	M-XYLENE	10	0	0	12	1	1	10	0	1	11	1	5
	O-XYLENE	10	0	0	12	1	3	10	0	2	11	1	8
	STYRENE	10	0	2	12	0	5	10	0	8	11	0	10
	1,1 DICHLOROETHYLENE	10	0	0	12	0	0	10	0	0	11	0	0
	METHYLENE CHLORIDE	10	0	0	12	0	0	10	0	0	11	0	0
	T1,2DICHLOROETHYLENE	10	0	0	12	0	0	10	0	0	11	0	0
	1,1 DICHLOROETHANE	10	0	0	12	0	0	10	0	0	11	0	0
	CHLOROFORM	10	0	1	12	12	0	10	10	0	11	11	0
	111, TRICHLOROETHANE	10	0	3	12	0	0	10	0	0	11	0	1
	1,2 DICHLOROETHANE	10	0	0	12	0	0	10	0	0	11	0	0
	CARBON TETRACHLORIDE	10	0	0	12	0	0	10	0	0	11	0	0
	1,2 DICHLOROPROPANE	10	0	0	12	0	0	10	0	0	11	0	0
	TRICHLOROETHYLENE	10	0	0	12	0	0	10	0	0	11	0	0
	DICHLOROBROMOMETHANE	10	0	0	12	12	0	10	10	0	11	11	0
	112 TRICHLOROETHANE	10	0	0	12	0	0	10	0	0	11	0	0
	CHLORODIBROMOMETHANE	10	0	0	12	0	3	10	0	1	11	0	4
	T-CHLOROETHYLENE	10	0	0	12	0	1	10	0	1	11	0	0
	BROMOFORM	10	0	0	12	0	0	10	0	0	11	0	0
	1122 T-CHLOROETHANE	10	0	0	12	0	0	10	0	0	11	0	0
	CHLOROBENZENE	10	0	0	12	0	0	10	0	0	11	0	0
	1,4 DICHLOROBENZENE	10	0	1	12	0	1	10	0	0	11	0	0
	1,3 DICHLOROBENZENE	10	0	0	12	0	0	10	0	0	11	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 3		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
VOLATILES	1,2 DICHLOROBENZENE	10	0	0	12	0	0	10	0	0	11	0	0
	ETHLYENE DIBROMIDE	10	0	0	12	0	0	10	0	0	11	0	0
	TOTL TRIHALOMETHANES	10	0	0	12	12	0	10	10	0	11	11	0
*TOTAL SCAN VOLATILES		290	0	10	348	39	23	290	30	24	319	36	46
*TOTAL GROUP ORGANIC		918	9	12	1154	48	29	764	30	27	793	36	50
TOTAL		1424	305	137	1738	394	167	1713	642	232	1768	651	250

KEY TO TABLE 5 and 6

A ONTARIO DRINKING WATER OBJECTIVES (ODWO)
1. Maximum Acceptable Concentration (MAC)
1+. MAC for Total Trihalomethanes
1*. MAC for Bacteriological Analyses
Poor water quality is indicated when :
- total coliform counts > 0 < 5
- P/A Bottle Test is present after 48 hours
- Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
- Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Fecal Streptococcus group should not be detected in any sample
- Standard Plate Count should not exceed 500 organisms per ml at 35 ^{0}C within 48 hours

2. Interim Maximum Acceptable Concentration (IMAC)
3. Maximum Desirable Concentration (MDC)
4. Aesthetic or Recommended Operational Guideline
- hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness >200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.

B HEALTH & WELFARE CANADA (H&W)
1. Maximum Acceptable Concentration (MAC)
2. Proposed MAC
3. Interim MAC
4. Aesthetic Objective (AO) (for xylenes, a total)

C WORLD HEALTH ORGANIZATION (WHO)
1. Guideline Value (GV)
2. Tentative GV
3. Aesthetic GV

D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
1. Maximum Contaminant Level (MCL)
2. Suggested No-Adverse Effect Level (SNAEL)
3. Lifetime Health Advisory
4. EPA Ambient Water Quality Criteria
5. Maximum Contaminant Level Goal (MCLG)

F EUROPEAN ECONOMIC COMMUNITY (EEC)
1. Health Related Guideline Level
2. Aesthetic Guideline Level
3. Maximum Admissable Concentration (MADC)

G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE

H USSR MAXIMUM PERMISSIBLE CONCENTRATION

I NEW YORK STATE AMBIENT WATER GUIDELINE

N/A NONE AVAILABLE

INTERPRETATION OF DATA

The interpretation of analytical results that are obtained from measurements near the limit of detection of the measurement process is subject to greater uncertainty than those at higher concentrations. The principle areas of concern relate to whether the substance has actually been detected, whether it has been properly identified, and whether it is an artifact of the measurement process. In other words, false positives can be caused by the instrumentation or the test procedures used, when in fact these compounds are not present in the sample.

There are several methods to treat data from such measurements:
1. Exclude the low-level data because of this uncertainty factor. However, studies of long-term environmental trends and modelling may be adversely affected by exclusion of such data.
2. Qualify these data so the user is aware of the greater uncertainty associated with their use.

For the Drinking Water Surveillance Program, measurements near the limit of detection of the measurement process are reported qualified by the code "<T". Results quantified by "W" indicate a zero measurement. These results are reported for purposes of modelling and long-term trend analysis and no significance should be attributed to a single determination of a substance below "T" (a single determination may well be a false positive). Repeat analysis or additional data are needed before it can be stated with certainty that the substance in question was truly present. On the other hand, it is less likely that repeated detection of a substance at or near the limit of detection at a specific location is solely due to an artifact in the measurement system, and more likely represents a true positive. However the average of such data is still only an estimate of the amount of substance present subject to the possible biases of the method used.

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident (SEE INTERPRETATION OF RESULTS ABOVE)
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!AW	No Data: Analysis Withdrawn
!CR	No Data: Could Not Confirm By Reanalysis
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!LA	No Data: Laboratory Accident

!LD	No Data: Test Queued After Sample Discarded
!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!QU	No Data: Quality Control Unacceptable
!PE	No Data: Procedural Error - Sample Discarded
!PH	No Data: Sample pH Outside Valid Range
!RE	No Data: Received Empty
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UAL	Unreliable: Sample Age Exceeds Normal Limit
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours
T# (T06)	Result Taken After # Hours

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
BACTERIOLOGICAL						
STANDRD PLATE CNT MF ( )			DET'N LIMIT = 0		GUIDELINE = 500/ML (A1)	
JUN	.	2400	.	2400 >	.	.
TOTAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 5/100ML(A1)	
JUN	BDL	0	.	0	.	.
T COLIFORM BCKGRD MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = N/A	
JUN	80 <=>	0	.	0	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (FLD)						
FLD CHLORINE (COMB) ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
FEB	.	.300	.350	.400	.	.200
MAR	.	.400	.250	.400	.300	.200
APR	.	.200	.200	.200	.150	.200
MAY	.	.200	.200	.200	.200	.200
JUN	.000	.400	.250	.400	.300	.400
JUL	.	.600	.250	.300	.400	.350
AUG	.	.200	.300	.200	.200	.200
OCT	.000	.400	.300	.300	.500	.400
	.	.300	.	.	.	.
NOV	.	.300	.300	.200	.300	.300
	.	.	.300	.300	.400	.200
	.	.300	.	.	.	.
DEC	.	.200	.200	.400	.800	1.100
FLD CHLORINE FREE ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
FEB	.	1.200	.350	.300	.	.500
MAR	.	1.100	.300	.500	.700	.900
APR	.	.900	.500	.300	.350	.400
MAY	.	.800	.300	.400	.500	.500
JUN	.000	1.300	.150	.500	.300	.500
JUL	.	.800	.100	.200	.200	.350
AUG	.	.900	.100	.300	.100	.300
OCT	.000	1.000	.200	.400	.300	.500
	.	1.000	.	.	.	.
NOV	.	1.200	.200	.900	.500	1.000
	.	.	.100	.600	.300	.900
	.	1.100	.	.	.	.
DEC	.	1.000	.200	.700	.300	.900
FLD CHLORINE (TOTAL) ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
FEB	.	1.500	.700	.700	.	.700
MAR	.	1.500	.550	.900	1.000	1.100
APR	.	1.100	.700	.500	.500	.600
MAY	.	1.000	.500	.600	.700	.700
JUN	.000	1.700	.400	.900	.600	.900
JUL	.	1.400	.350	.500	.600	.700
AUG	.	1.100	.400	.500	.300	.500
OCT	.000	1.400	.500	.700	.800	.900
	.	1.300	.	.	.	.
NOV	.	1.500	.500	1.100	.800	1.300
	.	.	.400	.900	.700	1.100
	.	1.400	.	.	.	.
DEC	.	1.200	.400	1.100	1.100	.200
FLD PH (DMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
FEB	7.230	7.230	7.200	7.200	.	7.200

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAR	7.200	8.000	7.600	7.500	7.400	7.500
APR	7.060	8.550	8.000	8.000	8.000	8.200
MAY	.	7.800	7.300	7.300	7.300	7.300
JUN	7.080	7.390	7.700	7.700	7.500	7.900
JUL	7.300	8.200	8.000	8.000	7.600	7.700
AUG	7.200	8.310	7.900	8.000	7.800	8.000
OCT	.	.	7.400	7.200	7.100	6.900
	7.300	8.400	.	.	.	.
NOV	7.400	8.000	7.600	7.700	7.600	7.900
	.	.	7.700	8.000	7.900	8.000
	7.200	6.800	.	.	.	.
DEC	7.200	8.200	7.600	7.900	8.000	8.200
FLD TEMPERATURE (DEG.C)			DET'N LIMIT = N/A		GUIDELINE = 15 (A1)	
FEB	.500	2.100	8.000	2.000	.	2.000
MAR	2.000	2.000	2.000	2.000	2.000	2.000
APR	4.500	4.000	3.000	3.000	4.000	3.500
MAY	.	11.000	9.000	8.500	9.500	9.500
JUN	14.500	14.000	15.500	15.000	15.500	14.500
JUL	22.500	23.000	23.000	23.000	23.500	23.000
AUG	21.200	20.500	18.000	17.000	18.000	17.000
OCT	14.000	14.500	15.000	14.500	14.000	13.500
	10.500	10.000	.	.	.	.
NOV	7.500	25.000	5.500	5.000	7.500	4.500
	.	.	11.000	10.500	12.500	10.500
	5.000	6.500	.	.	.	.
DEC	4.000	2.700	13.000	4.500	8.500	2.500
FLD TURBIDITY (FTU)			DET'N LIMIT = N/A		GUIDELINE = 1.0 (A1)	
FEB	.940	.240	.	.	.	.
MAR	.800	.190	.	.	.	.
APR	1.900	.090	.	.	.	.
MAY	.	.270	.	.	.	.
JUN	3.100	.240	.	.	.	.
JUL	1.590	.280	.	.	.	.
AUG	2.010	.100	.	.	.	.
OCT	.	.140	.	.	.	.
	2.500	.120	.	.	.	.
NOV	1.440	.100	.	.	.	.
	1.640	.160	.	.	.	.
DEC	1.210	.080	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (LAB)						
ALKALINITY (MG/L)			DET'N LIMIT = .200		GUIDELINE = 30-500 (A4)	
FEB	19.000	29.000	28.200	27.500	27.000	28.000
MAR	22.000	44.000	43.000	44.000	45.000	43.800
APR	23.000	47.300	52.000	50.000	50.000	47.600
MAY	.	40.600	23.600	36.500	36.500	39.200
JUN	20.500	37.400	45.900	47.100	47.000	48.100
JUL	24.500	55.500	50.600	50.000	49.600	49.700
AUG	21.000	50.900	51.000	50.900	50.700	50.700
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	21.700	44.300	.	.	.	.
NOV	24.000	36.200	38.000	37.200	37.500	37.000
	.	.	IIS	44.300	44.700	44.100
	22.200	15.900	.	.	.	.
DEC	20.500	40.700	40.500	40.400	40.900	40.800
CALCIUM (MG/L)			DET'N LIMIT = .100		GUIDELINE = 100 (F2)	
FEB	5.800	5.600	5.800	5.800	5.600	5.400
MAR	6.400	6.000	6.000	5.600	6.000	6.000
APR	5.400	5.400	6.200	5.800	5.800	5.600
MAY	.	6.400	7.200	6.000	6.000	6.000
JUN	6.000	6.600	6.400	6.600	7.200	7.200
JUL	6.800	6.800	6.800	7.200	7.000	7.000
AUG	6.800	6.600	5.800	6.600	6.400	5.600
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	6.600	6.600	.	.	.	.
NOV	8.600	8.700	8.800	8.800	8.600	8.600
	.	.	5.800	5.800	6.200	6.800
	6.000	6.200	.	.	.	.
DEC	6.800	6.800	6.800	6.400	6.400	6.400
CHLORIDE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 250 (A3)	
FEB	1.000	3.100	2.700	2.700	2.600	2.600
MAR	.900 <T	2.500	2.700	2.600	2.600	2.600
APR	1.200	2.700	2.800	2.700	2.700	2.700
MAY	.	2.400	2.500	2.400	2.300	2.400
JUN	.800 <T	3.200	3.300	3.200	3.500	3.400
JUL	.600 <T	3.100	3.400	3.600	3.600	3.700
AUG	.900 <T	3.600	3.900	3.700	3.700	3.700
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	.800 <T	3.000	.	.	.	.
NOV	1.000	3.100	3.300	3.200	3.300	3.200
	.	.	IIS	3.300	3.300	3.100
	.900 <T	2.900	.	.	.	.
DEC	1.200	2.700	3.000	2.900	3.100	2.800
COLOUR (HZU)			DET'N LIMIT = .5		GUIDELINE = 5.0 (A3)	
FEB	37.500	6.000	3.500	4.000	4.000	6.500

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAR	43.000	4.000	4.500	4.000	5.000	4.500
APR	45.500	4.500	5.500	4.500	4.500	4.500
MAY	.	3.500	4.500	4.000	4.000	4.000
JUN	47.000	2.500	3.000	3.000	3.500	3.000
JUL	43.000	10.500 RRV	5.500	4.500	4.500	3.500
AUG	33.000	3.000	3.500	3.000	4.500	3.000
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	33.500	3.500	.	.	.	.
NOV	35.500	1.500 <T	1.500 <T	2.000 <T	2.500	2.000 <T
	.	.	IIS	3.500	3.500	3.500
	32.500	2.500	.	.	.	.
DEC	37.000	3.500	4.500	3.500	4.000	3.500
CONDUCTIVITY (UMHO/CM)			DET'N LIMIT = 1		GUIDELINE = 400 (F2)	
FEB	51	115	110	107	105	104
MAR	51	147	146	146	147	147
APR	51	156	160	157	157	157
MAY	.	147	115	140	140	145
JUN	51	143	159	161	161	162
JUL	50	160	159	161	160	161
AUG	54	166	166	165	165	165
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	54	147	.	.	.	.
NOV	52	131	135	134	134	133
	.	.	IIS	146	148	146
	55	95	.	.	.	.
DEC	53	140	139	139	141	140
FLUORIDE (MG/L)			DET'N LIMIT = .01		GUIDELINE = 2.400 (A1)	
FEB	.060	2.180	1.660	1.640	1.660	1.620
MAR	.040 <T	1.520	1.560	1.560	1.600	1.580
APR	.020 <T	1.060	1.040	1.060	1.080	1.080
MAY	.	1.100	.940	1.200	1.180	1.180
JUN	.040 <T	.920	1.020	1.020	1.020	1.020
JUL	.040 <T	1.120	1.080	1.060	1.060	1.080
AUG	.040 <T	.760	.780	.780	.780	.780
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	.040 <T	1.180	.	.	.	.
NOV	.040 <T	.940	.940	.980	1.000	1.000
	.	.	BDL	1.220	1.160	1.160
	.060	1.100	.	.	.	.
DEC	.040 <T	.980	1.040	.880	1.060	1.040
HARDNESS (MG/L)			DET'N LIMIT = .500		GUIDELINE = 80-100 (A4)	
FEB	23.000	21.000	23.000	22.000	22.000	21.000
MAR	23.000	23.000	23.000	21.000	22.000	22.000
APR	22.000	23.000	25.000	24.000	23.000	14.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	.	24.000	27.000	23.000	23.000	23.000
JUN	23.000	24.000	23.000	24.000	26.000	26.000
JUL	26.000	25.000	26.000	27.000	26.000	27.000
AUG	26.000	25.000	23.000	25.000	25.000	23.000
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	25.000	25.000	.	.	.	.
NOV	29.100	29.400	29.900	29.600	30.200	30.200
	.	.	22.600	22.200	24.000	25.000
	24.000	24.000	.	.	.	.
DEC	24.000	25.000	25.000	24.000	24.000	23.000
IONCAL (DMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A	
FEB	7.463	10.950	7.486	8.043	4.930	4.898
MAR	2.887	5.895	7.677	3.300	2.419	6.350
APR	10.220	4.942	2.596	4.157	4.532	5.901
MAY	.	5.518	1.843	6.111	6.204	3.340
JUN	2.258	8.476	5.591	6.527	8.743	7.220
JUL	2.115	7.174	6.976	4.896	5.998	5.727
AUG	5.156	.114	.077	2.209	1.756	.870
OCT	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
	1.743	3.821	.	.	.	.
NOV	6.944	9.992	8.642	9.494	9.096	10.470
	.	.	.000 NAF	1.320	2.819	4.913
	.594	4.227	.	.	.	.
DEC	7.000	5.076	4.633	3.236	1.217	2.502
LANGELIERS INDEX (DMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A	
FEB	-1.763	-1.424	-1.438	-1.488	-1.670	-1.620
MAR	-1.707	-1.067	-1.127	-1.107	-1.077	-1.109
APR	-1.701	-1.036	-.876	-.951	-.961	-.977
MAY	.	-1.094	-1.744	-1.215	-1.255	-1.136
JUN	-1.745	-1.215	-.996	-1.012	-1.075	-1.066
JUL	-1.503	-.678	-.757	-.748	-.784	-.773
AUG	-1.842	-.580	-.926	-.760	-.795	-.813
OCT	-1.521	-.843	.	.	.	.
NOV	-1.511	-1.003	-1.059	-.998	-1.064	-1.030
	.	.	.	-1.009	-.887	-.841
	-1.573	-2.041	.	.	.	.
DEC	-1.602	-.973	-1.045	-1.023	-1.068	-1.049
MAGNESIUM (MG/L)			DET'N LIMIT = .050		GUIDELINE = 30 (F2)	
FEB	1.900	1.700	1.900	1.900	1.900	1.900
MAR	1.800	1.800	1.800	1.700	1.700	1.700
APR	2.200	2.200	2.200	2.200	2.200	2.200
MAY	.	2.100	2.100	2.000	2.000	1.900
JUN	1.900	1.900	1.800	1.800	1.900	1.900
JUL	2.100	2.100	2.200	2.200	2.100	2.200

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	2.100	2.100	2.100	2.000	2.100	2.200
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	2.000	2.100	.	.	.	.
NOV	1.850	1.850	1.950	1.850	2.110	2.120
	.	.	2.000	1.900	2.100	2.000
	2.100	2.100	.	.	.	.
DEC	1.800	1.900	2.000	1.800	1.800	1.800
SODIUM (MG/L)			DET'N LIMIT = .200		GUIDELINE = 200 (C3)	
FEB	1.800	14.400	13.000	12.600	11.600	12.200
MAR	1.600	22.600	22.800	22.400	22.200	22.800
APR	1.000	23.400	24.000	24.000	24.000	23.600
MAY	.	21.600	11.800	20.400	20.200	21.200
JUN	1.400	20.800	25.000	25.800	26.200	26.200
JUL	1.600	25.000	24.400	23.800	24.200	24.200
AUG	1.200	25.400	26.400	26.200	26.000	25.800
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	1.200	21.000	.	.	.	.
NOV	1.200	18.000	18.100	18.100	17.800	17.700
	.	.	22.500	21.800	21.600	21.400
	1.500	8.400	.	.	.	.
DEC	1.600	19.800	19.600	19.800	19.800	19.800
AMMONIUM TOTAL (MG/L)			DET'N LIMIT = 0.002		GUIDELINE = .05 (F2)	
FEB	.020	.010	.012	.016	.016	.014
MAR	.016	.002 <T	.002 <T	.010	.002 <T	BDL
APR	.024	.006 <T	.006 <T	.004 <T	.004 <T	.004 <T
MAY	.	.008 <T	.012	.008 <T	.012	.004 <T
JUN	.018	.010	.004 <T	.002 <T	.008 <T	.004 <T
JUL	.042	.004 <T	.006 <T	.004 <T	.004 <T	.002 <T
AUG	BDL	.002 <T	.010	BDL	BDL	BDL
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	.010	BDL	.	.	.	.
NOV	BDL	BDL	.004 <T	.004 <T	BDL	.108
	.	.	IIS	BDL	BDL	BDL
	.012	.006 <T	.	.	.	.
DEC	.008 <T	BDL	BDL	BDL	BDL	BDL
NITRITE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = 1.000 (A1)	
FEB	.005	.002 <T	.003 <T	.004 <T	.004 <T	.004 <T
MAR	.004 <T	.002 <T	.002 <T	.002 <T	.002 <T	.002 <T
APR	.002 <T	.001 <T	.002 <T	.001 <T	.001 <T	.001 <T
MAY	.	.005	.006	.006	.007	.005
JUN	.012	.004 <T	.006	.004 <T	.002 <T	BDL
JUL	.004 <T	.002 <T	.002 <T	.002 <T	.003 <T	.002 <T
AUG	.002 <T	.003 <T	.005	.003 <T	.002 <T	.002 <T
OCT	ISM	ISM	ISM	ISM	ISM	ISM

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	.003 <T	BDL	.	.	.	.
NOV	.004 <T	.001 <T	.003 <T	.001 <T	.002 <T	.001 <T
	.	.	IIS	.001 <T	BDL	BDL
	.003 <T	.001 <T	.	.	.	.
DEC	.004 <T	.001 <T	.002 <T	.001 <T	.001 <T	.001 <T
TOTAL NITRATES (MG/L)			DET'N LIMIT = .020		GUIDELINE = 10.000 (A1)	
FEB	.085	.100	.090	.090	.095	.090
MAR	.105	.125	.130	.130	.130	.130
APR	.095	.110	.100	.110	.110	.110
MAY	.	.030	.030	.020 <T	.030	.025
JUN	.045	.020 <T	.020 <T	.005 <T	.075	.065
JUL	.075	.040	.025	.030	.030	.035
AUG	.100	.030	.050	.035	.030	.010 <T
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	.030	.015 <T	.	.	.	.
NOV	.050	.060	.060	.060	.065	.065
	.	.	IIS	.015 <T	.020 <T	.010 <T
	.030	.070	.	.	.	.
DEC	.085	.085	.080	.080	.085	.085
NITROGEN TOT KJELD (MG/L)			DET'N LIMIT = .020		GUIDELINE = N/A	
FEB	.410	.270	.240	.220	.230	.240
MAR	.400	.220	.250	.230	.270	.220
APR	.440	.260	.260	.260	.260	.250
MAY	.	.180	.340	.220	.200	.180
JUN	.460	.200	.210	.210	.250	.170
JUL	.440	.370	.320	.250	.270	.250
AUG	.440	.240	.290	.210	.220	.220
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	.450	.260	.	.	.	.
NOV	.450	.160	.240	.290	.210	.190
	.	.	IIS	.240	.250	.250
	.380	.180	.	.	.	.
DEC	.390	.200	.230	.220	.250	.210
PH (DMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
FEB	7.530	7.730	7.710	7.670	7.510	7.560
MAR	7.480	7.890	7.840	7.880	7.870	7.850
APR	7.540	7.940	8.000	7.970	7.960	7.980
MAY	.	7.870	7.390	7.820	7.780	7.870
JUN	7.500	7.770	7.920	7.880	7.780	7.780
JUL	7.610	8.130	8.090	8.080	8.060	8.070
AUG	7.340	8.280	7.990	8.100	8.080	8.120
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	7.660	8.070	.	.	.	.
NOV	7.510	7.870	7.790	7.860	7.800	7.840

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
NOV	.	.	IIS	7.960	8.050	8.060
	7.640	7.320	.	.	.	.
DEC	7.590	7.960	7.890	7.940	7.890	7.910
PHOSPHORUS FIL REACT (MG/L)			DET'N LIMIT = .0005		GUIDELINE = N/A	
FEB	.000	.002	.	.	.	.
MAR	.000 <T	.001 <T	.	.	.	.
APR	BDL	BDL	.	.	.	.
MAY	.	BDL	.	.	.	.
JUN	.000 <T	.000 <T	.	.	.	.
JUL	.001 <T	BDL	.	.	.	.
AUG	.000 <T	.000 <T	.	.	.	.
OCT	ISM	ISM	.	.	.	.
	BDL	BDL	.	.	.	.
NOV	.001 <T	.001 <T	.	.	.	.
	.002 <T	.002 <T	.	.	.	.
DEC	.002 <T	.003	.	.	.	.
PHOSPHORUS TOTAL (MG/L)			DET'N LIMIT = .002		GUIDELINE = .40 (F2)	
FEB	.011	.004 <T	.	.	.	.
MAR	.011	.004 <T	.	.	.	.
APR	.013	.005 <T	.	.	.	.
MAY	.	.005 <T	.	.	.	.
JUN	.014	.003 <T	.	.	.	.
JUL	.011	.008 <T	.	.	.	.
AUG	.027	.005 <T	.	.	.	.
OCT	ISM	ISM	.	.	.	.
	.013	.004 <T	.	.	.	.
NOV	.014	.003 <T	.	.	.	.
	.009 <T	BDL	.	.	.	.
DEC	.013	.006 <T	.	.	.	.
SULPHATE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 500. (A3)	
FEB	3.590	12.900	14.170	13.850	13.320	13.120
MAR	3.890	18.810	18.800	18.600	18.700	18.590
APR	2.200 <T	17.750	17.760	17.780	17.530	17.690
MAY	.	22.840	23.190	22.810	22.480	23.060
JUN	3.400	21.270	22.110	22.540	23.000	23.140
JUL	2.900	14.030	17.720	19.130	18.730	19.030
AUG	4.050	23.180	23.000	22.720	22.780	22.910
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	3.780	18.800	.	.	.	.
NOV	3.880	20.610	20.150	20.210	19.910	19.950
	.	.	IIS	19.000	18.920	19.070
	3.360	19.640	.	.	.	.
DEC	3.420	18.970	19.020	18.800	19.270	18.980

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
TURBIDITY (FTU)			DET'N LIMIT = .02		GUIDELINE = 1.00 (A1)	
FEB	1.210 RRV	.780	.410	.620	.340	.350
MAR	.900	.750	.480	.900	.960	.810
APR	1.640	.510	.420	.290	.460	.320
MAY	.	.450	.950	.900	.500	.400
JUN	3.700	.430	.920	.860	.750	.370
JUL	.980	.390	.490	.360	.820	.480
AUG	6.100	.570	.660	.510	.700	.550
OCT	ISM	ISM	ISM	ISM	ISM	ISM
	2.600	3.300	.	.	.	.
NOV	1.610	.550	1.320	.380	1.880 RRV	.380
	.	.	15.000	.290	.180	.180
	1.770	.340	.	.	.	.
DEC	1.600	.180 <T	.990	.170 <T	.530	.300

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
METALS						
SILVER (UG/L)				DET'N LIMIT = .020	GUIDELINE = 50. (A1)	
FEB	BDL	BDL	BDL	BDL	BDL	BDL
MAR	.080 <T	.040 <T	.070 <T	.090 <T	.130 <T	.090 <T
APR	BDL	BDL	BDL	.050 <T	BDL	BDL
MAY	.	BDL	.080 <T	BDL	BDL	BDL
JUN	BDL	.050 <T	.030 <T	BDL	BDL	BDL
JUL	BDL	BDL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL	BDL	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL
	BDL	BDL	.	.	.	.
NOV	BDL	BDL	BDL	BDL	BDL	BDL
	.	.	.030 <T	BDL	BDL	BDL
	BDL	BDL	.	.	.	.
DEC	BDL	BDL	BDL	.	BDL	BDL
ALUMINUM (UG/L)				DET'N LIMIT = .050	GUIDELINE = 100.(A4)	
FEB	53.360	185.600	116.000	127.600	116.000	127.600
MAR	56.840	440.800	336.400	348.000	498.800	382.800
APR	71.920	232.000	278.400	220.400	220.400	220.400
MAY	.	360.000	180.000	260.000	280.000	280.000
JUN	90.000	370.000	280.000	360.000	510.000	410.000
JUL	52.000	160.000	250.000	180.000	210.000	180.000
AUG	50.000	140.000	220.000	160.000	160.000	140.000
OCT	60.000	94.000	120.000	69.000	81.000	73.000
	41.000	120.000	.	.	.	.
NOV	44.000	120.000	70.000	90.000	120.000	100.000
	.	.	100.000	130.000	130.000	120.000
	33.000	120.000	.	.	.	.
DEC	51.000	110.000	100.000	.	110.000	100.000
ARSENIC (UG/L)				DET'N LIMIT = 0.050	GUIDELINE = 50.0 (A1)	
FEB	.180 <T	.680 <T	.330 <T	.280 <T	.410 <T	.610 <T
MAR	1.100	1.400	1.000 <T	1.000 <T	1.500	1.200
APR	.780 <T	.900 <T	1.200	.920 <T	1.100	1.100
MAY	.	.700 <T	.590 <T	.670 <T	.550 <T	.640 <T
JUN	.910 <T	1.000 <T	.900 <T	.910 <T	1.200	.750 <T
JUL	.890 <T	1.200	1.300	1.100	1.200	1.200
AUG	1.100	.820 <T	1.200	.840 <T	1.000 <T	1.000 <T
OCT	.540 <T	.390 <T	.380 <T	.300 <T	.290 <T	.310 <T
	.390 <T	.420 <T	.	.	.	.
NOV	.380 <T	.200 <T	.160 <T	.190 <T	.380 <T	.310 <T
	.	.	.290 <T	.410 <T	.320 <T	.260 <T
	.440 <T	.450 <T	.	.	.	.
DEC	.390 <T	.330 <T	.640 <T	.	.130 <T	.240 <T
BARIUM (UG/L)				DET'N LIMIT = 0.020	GUIDELINE = 1000. (A1)	
FEB	8.700	7.900	7.300	7.400	6.700	6.700

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAR	9.200	8.900	7.500	7.700	7.500	7.800
APR	8.200	7.900	5.900	6.400	7.000	7.000
MAY	.	8.700	28.000	8.200	8.500	7.900
JUN	8.700	8.700	9.200	7.200	7.700	7.100
JUL	8.500	7.400	5.100	7.000	7.500	7.600
AUG	8.700	8.100	3.000	4.600	5.700	5.700
OCT	8.100	7.800	7.200	13.000	11.000	11.000
	8.500	7.700	.	.	.	.
NOV	8.000	8.000	7.100	8.100	8.300	7.700
	.	.	5.400	5.800	6.400	6.600
	8.400	8.800	.	.	.	.
DEC	8.500	7.900	8.100	.	6.800	6.700
BORON (UG/L)				DET'N LIMIT = 0.200 GUIDELINE = 5000. (A1)		
FEB	10.000 <T	5.700 <T	5.200 <T	5.700 <T	5.100 <T	6.200 <T
MAR	25.000	38.000	29.000	36.000	16.000 <T	19.000 <T
APR	34.000	32.000	45.000	46.000	38.000	39.000
MAY	.	14.000 <T	7.600 <T	5.800 <T	6.500 <T	6.100 <T
JUN	7.300 <T	12.000 <T	6.800 <T	12.000 <T	5.900 <T	6.100 <T
JUL	8.000 <T	12.000 <T	6.300 <T	11.000 <T	8.500 <T	7.100 <T
AUG	14.000 <T	20.000 <T	6.600 <T	16.000 <T	6.800 <T	12.000 <T
OCT	10.000 <T	8.200 <T	6.400 <T	5.900 <T	9.200 <T	6.400 <T
	6.200 <T	5.700 <T	.	.	.	.
NOV	5.400 <T	5.100 <T	5.200 <T	5.400 <T	5.000 <T	4.600 <T
	.	.	5.600 <T	6.000 <T	5.500 <T	6.100 <T
	5.100 <T	5.700 <T	.	.	.	.
DEC	6.500 <T	9.400 <T	6.300 <T	.	8.400 <T	6.300 <T
BERYLLIUM (UG/L)				DET'N LIMIT = 0.010 GUIDELINE = N/A		
FEB	BDL	BDL	BDL	BDL	BDL	BDL
MAR	BDL	BDL	BDL	BDL	BDL	BDL
APR	BDL	BDL	BDL	.060 <T	BDL	BDL
MAY	.	.070 <T	.030 <T	BDL	BDL	BDL
JUN	.020 <T	.040 <T	BDL	.020 <T	BDL	BDL
JUL	BDL	.070 <T	.030 <T	.030 <T	BDL	.020 <T
AUG	.050 <T	.060 <T	.020 <T	.050 <T	BDL	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL
	.030 <T	BDL	.	.	.	.
NOV	.030 <T	BDL	.020 <T	.050 <T	BDL	BDL
	.	.	.020 <T	BDL	BDL	BDL
	BDL	.020 <T	.	.	.	.
DEC	BDL	BDL	BDL	.	BDL	BDL
CADMIUM (UG/L)				DET'N LIMIT = 0.050 GUIDELINE = 5.000 (A1)		
FEB	BDL	BDL	BDL	BDL	BDL	BDL
MAR	BDL	.090 <T	.080 <T	.310 <T	.070 <T	BDL
APR	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	.	BDL	.160 <T	.070 <T	.090 <T	.090 <T
JUN	BDL	.120 <T	.090 <T	BDL	.180 <T	.070 <T
JUL	BDL	BDL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	.060 <T	BDL	BDL	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL
	BDL	BDL	.	.	.	.
NOV	BDL	BDL	BDL	BDL	BDL	BDL
	.	.	BDL	BDL	BDL	BDL
	BDL	BDL	.	.	.	.
DEC	BDL	BDL	BDL	.	BDL	BDL
COBALT (UG/L)			DET'N LIMIT = 0.020 GUIDELINE = N/A			
FEB	.090 <T	.060 <T	.050 <T	.050 <T	.060 <T	.050 <T
MAR	.160 <T	.170 <T	.130 <T	.170 <T	.130 <T	.150 <T
APR	.250 <T	.150 <T	.160 <T	.180 <T	.160 <T	.130 <T
MAY	.	.130 <T	.160 <T	.140 <T	.110 <T	.180 <T
JUN	.230 <T	.200 <T	.210 <T	.180 <T	.100 <T	.130 <T
JUL	.160 <T	.120 <T	.130 <T	.130 <T	.130 <T	.120 <T
AUG	.120 <T	.110 <T	.100 <T	.150 <T	.190 <T	.130 <T
OCT	.100 <T	.060 <T	.060 <T	.060 <T	.070 <T	.060 <T
	.070 <T	.050 <T	.	.	.	.
NOV	.090 <T	.400 <T	.150 <T	.120 <T	.090 <T	.100 <T
	.	.	.110 <T	.080 <T	.070 <T	.130 <T
	.260 <T	.100 <T	.	.	.	.
DEC	.090 <T	.160 <T	.160 <T	.	.130 <T	.110 <T
CHROMIUM (UG/L)			DET'N LIMIT = 0.100 GUIDELINE = 50. (A1)			
FEB	.730 <T	BDL	BDL	BDL	BDL	BDL
MAR	.210 <T	.600 <T	.220 <T	.340 <T	BDL	BDL
APR	1.400	.930 <T	1.600	1.600	1.200	1.300
MAY	.	3.600	.950 <T	.230 <T	2.800	.200 <T
JUN	.700 <T	1.700	BDL	1.900	BDL	BDL
JUL	.640 <T	1.300	BDL	1.100	.450 <T	BDL
AUG	1.500	2.000	BDL	2.300	.250 <T	1.500
OCT	1.100	.280 <T	BDL	BDL	BDL	BDL
	.290 <T	BDL	.	.	.	.
NOV	BDL	BDL	BDL	BDL	BDL	BDL
	.	.	BDL	BDL	BDL	BDL
	.160 <T	BDL	.	.	.	.
DEC	BDL	.880 <T	BDL	.	BDL	BDL
COPPER (UG/L)			DET'N LIMIT = .100 GUIDELINE = 1000 (A3)			
FEB	2.600	26.000	40.000	37.000	26.000	27.000
MAR	4.000	3.400	30.000	29.000	63.000	11.000
APR	4.700	1.600	67.000	5.700	14.000	3.900
MAY	.	16.000	1300.000	59.000	35.000	19.000
JUN	5.100	12.000	140.000	34.000	38.000	8.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JUL	5.700	8.000	62.000	12.000	18.000	6.900
AUG	6.500	6.500	54.000	10.000	45.000	6.300
OCT	4.600	82.000	76.000	19.000	28.000	21.000
	4.700	4.100	.	.	.	.
NOV	3.700	4.600	120.000	14.000	61.000	7.600
	.	.	110.000	15.000	18.000	6.800
	.870 <T	20.000	.	.	.	.
DEC	3.900 <T	2.500 <T	400.000	.	29.000	6.300
IRON (UG/L)			DET'N LIMIT = 4.000 GUIDELINE = 300. (A3)			
FEB	89.000	14.000 <T	27.000 <T	30.000 <T	30.000 <T	31.000 <T
MAR	240.000	23.000 <T	16.000 <T	13.000 <T	32.000 <T	14.000 <T
APR	130.000	BDL	BDL	BDL	17.000 <T	BDL
MAY	.	BDL	53.000	29.000 <T	BDL	BDL
JUN	170.000	6.800 <T	17.000 <T	26.000 <T	74.000	10.000 <T
JUL	97.000	79.000	9.200 <T	6.700 <T	54.000	6.700 <T
AUG	86.000	BDL	6.200 <T	BDL	84.000	BDL
OCT	120.000	5.700 <T	8.000 <T	16.000 <T	23.000 <T	13.000 <T
	91.000	BDL	.	.	.	.
NOV	80.000	BDL	6.000 <T	6.000 <T	61.000	6.400 <T
	.	.	BDL	BDL	13.000 <T	5.600 <T
	75.000	5.800 <T	.	.	.	.
DEC	77.000	7.700 <T	140.000	.	32.000 <T	BDL
MERCURY (UG/L)			DET'N LIMIT = 0.010 GUIDELINE = 1.000 (A1)			
FEB	.220	.240	.	BDL	.	.230
MAR	.260	.260	.	.290	.	BDL
APR	BDL	BDL	.	.240	.	BDL
MAY	.	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	.290	.	BDL
JUL	BDL	BDL	.	.280	.	BDL
AUG	BDL	BDL	.	.310	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
NOV	.020 <T	.020 <T	.	BDL	.	BDL
	.	.	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
DEC	BDL	BDL	.	.	.	.020 <T
MANGANESE (UG/L)			DET'N LIMIT = .050 GUIDELINE = 50.0 (A3)			
FEB	4.300	1.200	2.300	2.200	2.400	2.500
MAR	4.200	1.000	1.400	1.500	2.100	1.500
APR	6.500	2.800	2.100	2.800	3.700	3.200
MAY	.	1.800	13.000	3.000	3.100	2.600
JUN	9.500	2.300	3.400	2.600	5.700	2.800
JUL	5.200	3.500	2.400	3.100	6.000	3.400
AUG	11.000	2.800	2.600	2.700	5.200	2.900

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	9.400	2.000	1.800	3.000	3.200	3.200
	6.600	1.400	.	.	.	.
NOV	5.100	1.300	.880	1.200	4.100	1.300
	.	.	1.500	1.500	2.100	1.700
	5.900	1.300	.	.	.	.
DEC	5.000	.880	2.000	.	2.500	1.100
MOLYBDENUM (UG/L)			DET'N LIMIT = 0.020 GUIDELINE = N/A			
FEB	.110 <T	.140 <T	.110 <T	.110 <T	.090 <T	.130 <T
MAR	.230 <T	.150 <T	.290 <T	.220 <T	.250 <T	.310 <T
APR	.240 <T	.390 <T	.360 <T	.360 <T	.270 <T	.390 <T
MAY	.	.440 <T	.060 <T	.390 <T	.410 <T	.380 <T
JUN	.110 <T	.340 <T	.300 <T	.390 <T	.400 <T	.350 <T
JUL	.170 <T	.300 <T	.350 <T	.290 <T	.350 <T	.310 <T
AUG	.180 <T	.260 <T	.350 <T	.360 <T	.400 <T	.340 <T
OCT	.140 <T	.110 <T	.140 <T	.090 <T	.100 <T	.100 <T
	.100 <T	.150 <T	.	.	.	.
NOV	.100 <T	.120 <T	.140 <T	.110 <T	.100 <T	.090 <T
	.	.	.180 <T	.150 <T	.160 <T	.120 <T
	.060 <T	.060 <T	.	.	.	.
DEC	BDL	.140 <T	.100 <T	.	.120 <T	.140 <T
NICKEL (UG/L)			DET'N LIMIT = 0.100 GUIDELINE = 50. (F3)			
FEB	BDL	BDL	BDL	BDL	.650 <T	.550 <T
MAR	1.100 <T	1.000 <T	.850 <T	1.000 <T	1.700 <T	.980 <T
APR	86.000	.890 <T	.650 <T	.610 <T	1.600 <T	.960 <T
MAY	.	.190 <T	2.200	.280 <T	.790 <T	.400 <T
JUN	1.800 <T	1.700 <T	2.200	1.600 <T	1.800 <T	.460 <T
JUL	.410 <T	.270 <T	.190 <T	.270 <T	1.800 <T	.840 <T
AUG	.650 <T	.700 <T	.680 <T	.820 <T	27.000	1.200 <T
OCT	.720 <T	.500 <T	1.300 <T	.750 <T	3.900	.920 <T
	.800 <T	.500 <T	.	.	.	.
NOV	.410 <T	.130 <T	1.100 <T	BDL	2.700	.500 <T
	.	.	1.100 <T	.500 <T	1.800 <T	.820 <T
	.670 <T	.560 <T	.	.	.	.
DEC	.590 <T	.370 <T	.780 <T	.	1.800 <T	.380 <T
LEAD (UG/L)			DET'N LIMIT = 0.050 GUIDELINE = 50. (A1)			
FEB	.060 <T	.140 <T	7.700	8.200	.380	.220
MAR	.460	1.500	5.000	4.300	2.100	2.000
APR	.410	.070 <T	4.000	3.400	.700	.350
MAY	.	.520	21.000	5.100	20.000	.560
JUN	.650	.310	7.100	5.900	1.500	.690
JUL	.520	.370	9.300	6.700	1.500	.850
AUG	.590	.210	7.300	8.900	4.800	.890
OCT	.400	.300	5.600	7.000	.920	.740
	.350	.090 <T	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
NOV	.160 <T	.070 <T	5.300	3.200	4.600	1.200
	.	.	6.200	5.200	.870	.500
	.150 <T	.130 <T	.	.	.	.
DEC	.220 <T	.060 <T	66.000 RRV	.	.950	.320 <T
ANTIMONY (UG/L)				DET'N LIMIT = .050 GUIDELINE = 146. (D4)		
FEB	.400	.360	.400	.350	.360	.380
MAR	.640	.830	.600	.640	.590	.690
APR	.480	.460	.450	.440	.470	.470
MAY	.	.780	.850	.810	1.000	.710
JUN	.520	.590	.560	.560	.660	.650
JUL	.490	.560	.540	.460	.520	.520
AUG	.570	.600	.610	.720	.840	.650
OCT	.380	.360	.450	.350	.3..	.340
	.140 <T	.150 <T	.	.	.	.
NOV	.310	.750	.390	.330	.410 <T	.390 <T
	.	.	.290	.290	.190 <T	.260
	.660	.320	.	.	.	.
DEC	.150 <T	.320 <T	.620	.	.440 <T	.330 <T
SELENIUM (UG/L)				DET'N LIMIT = 0.200 GUIDELINE = 10. (A1)		
FEB	1.500 <T	1.300 <T	.880 <T	.700 <T	BDL	BDL
MAR	2.400 <T	.970 <T	1.300 <T	.620 <T	1.300 <T	1.900 <T
APR	BDL	BDL	BDL	BDL	BDL	BDL
MAY	.	BDL	BDL	BDL	2.400 <T	BDL
JUN	BDL	BDL	BDL	BDL	BDL	BDL
JUL	BDL	BDL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL	BDL	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL
	BDL	BDL	.	.	.	.
NOV	BDL	BDL	BDL	BDL	BDL	BDL
	.	.	BDL	BDL	BDL	BDL
	BDL	BDL	.	.	.	.
DEC	BDL	BDL	BDL	.	BDL	BDL
STRONTIUM (UG/L)				DET'N LIMIT = .050 GUIDELINE = N/A		
FEB	22.000	20.000	20.000	20.000	20.000	20.000
MAR	22.000	22.000	20.000	21.000	21.000	21.000
APR	21.000	21.000	22.000	21.000	21.000	21.000
MAY	.	23.000	31.000	20.000	20.000	20.000
JUN	20.000	20.000	18.000	18.000	20.000	21.000
JUL	21.000	20.000	19.000	22.000	21.000	21.000
AUG	21.000	20.000	18.000	19.000	19.000	19.000
OCT	23.000	21.000	26.000	27.000	25.000	26.000
	21.000	20.000	.	.	.	.
NOV	20.000	20.000	20.000	21.000	21.000	21.000
	.	.	18.000	20.000	19.000	21.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
NOV	20.000	21.000	.	.	.	.
DEC	22.000	22.000	23.000	.	21.000	20.000
TITANIUM (UG/L)				DET'N LIMIT = .050	GUIDELINE = N/A	
FEB	4.700	3.900	2.100	2.500	3.800	4.500
MAR	5.000	5.300	5.000	4.800	3.500	3.100
APR	3.500	2.700	4.300	3.400	2.300	2.200
MAY	.	7.300	8.600	6.700	5.100	5.000
JUN	9.000	8.200	8.600	9.600	7.000	5.300
JUL	4.400	4.000	4.100	4.100	4.100	3.900
AUG	5.300	4.200	4.200	6.500	6.000	5.800
OCT	3.200	1.700 <T	2.100	2.000 <T	2.600	2.000 <T
	3.100	2.800	.	.	.	.
NOV	3.700	3.100	3.000	3.600	3.400 <T	2.900 <T
	.	.	2.900	3.000	3.200	2.900
	3.100	3.000	.	.	.	.
DEC	4.900 <T	4.100 <T	4.400 <T	.	4.000 <T	4.000 <T
THALLIUM (UG/L)				DET'N LIMIT = .010	GUIDELINE = 13. (D4)	
FEB	BDL	BDL	BDL	BDL	BDL	BDL
MAR	BDL	BDL	BDL	BDL	BDL	BDL
APR	.040 <T	BDL	.030 <T	.040 <T	.050 <T	.030 <T
MAY	.	BDL	BDL	BDL	BDL	BDL
JUN	BDL	BDL	.020 <T	BDL	BDL	BDL
JUL	BDL	BDL	BDL	.020 <T	.020 <T	.020 <T
AUG	BDL	BDL	BDL	BDL	BDL	.030 <T
OCT	BDL	.020 <T	.020 <T	BDL	BDL	BDL
	BDL	BDL	.	.	.	.
NOV	.020 <T	BDL	BDL	BDL	BDL	BDL
	.	.	BDL	BDL	BDL	BDL
	BDL	BDL	.	.	.	.
DEC	BDL	BDL	BDL	.	BDL	BDL
URANIUM (UG/L)				DET'N LIMIT = .020	GUIDELINE = 100.(B1)	
FEB	.040 <T	.030 <T	BDL	BDL	.040 <T	.040 <T
MAR	BDL	BDL	BDL	BDL	BDL	BDL
APR	.070 <T	BDL	.040 <T	.120 <T	.060 <T	BDL
MAY	.	.060 <T	BDL	.090 <T	.040 <T	.030 <T
JUN	.210	.170 <T	.090 <T	.070 <T	.090 <T	BDL
JUL	.160 <T	.050 <T	.080 <T	.040 <T	.060 <T	BDL
AUG	.060 <T	BDL	BDL	.080 <T	.100 <T	.060 <T
OCT	.050 <T	BDL	BDL	BDL	BDL	BDL
	.080 <T	BDL	.	.	.	.
NOV	.040 <T	BDL	BDL	BDL	BDL	BDL
	.	.	BDL	.040 <T	BDL	BDL
	.030 <T	BDL	.	.	.	.
DEC	.080 <T	BDL	BDL	.	BDL	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
VANADIUM (UG/L)			DET'N LIMIT = .050 GUIDELINE = N/A			
FEB	.250 <T	.110 <T	.050 <T	.060 <T	.090 <T	.090 <T
MAR	.260 <T	.110 <T	.070 <T	.090 <T	.080 <T	.080 <T
APR	.360 <T	.140 <T	.180 <T	.160 <T	.180 <T	.160 <T
MAY	.	.220 <T	.160 <T	.210 <T	.210 <T	.170 <T
JUN	.410 <T	.240 <T	.240 <T	.220 <T	.220 <T	.200 <T
JUL	.350 <T	.340 <T	.330 <T	.320 <T	.350 <T	.320 <T
AUG	.360 <T	.170 <T	.210 <T	.250 <T	.270 <T	.260 <T
OCT	.370 <T	.120 <T	.060 <T	.060 <T	.090 <T	.050 <T
	.310 <T	.120 <T	.	.	.	.
NOV	.280 <T	.100 <T	.050 <T	.060 <T	.140 <T	.080 <T
	.	.	.080 <T	.110 <T	.120 <T	.100 <T
	.240 <T	.070 <T	.	.	.	.
DEC	.190 <T	BDL	.330 <T	.	.110 <T	.070 <T
ZINC (UG/L)			DET'N LIMIT = .001 GUIDELINE = 5000. (A3)			
FEB	1.400	18.000	15.000	14.000	14.000	16.000
MAR	3.400	16.000	12.000	13.000	26.000	16.000
APR	3.500	16.000	6.300	10.000	18.000	13.000
MAY	.	23.000	76.000	15.000	29.000	20.000
JUN	3.400	23.000	18.000	15.000	50.000	19.000
JUL	2.800	11.000	4.100	7.900	23.000	16.000
AUG	3.500	18.000	5.900	8.400	62.000	13.000
OCT	2.300	29.000	9.200	25.000	46.000	42.000
	3.200	12.000	.	.	.	.
NOV	1.700	12.000	9.700	8.200	32.000	16.000
	.	.	6.800	5.600	15.000	11.000
	1.200	20.000	.	.	.	.
DEC	3.000	9.900	10.000	.	20.000	10.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
PESTICIDES & PCB						
ALPHA BHC (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 700 (G)	
FEB	BDL	1.000 <T	.	1.000 <T	.	1.000 <T
MAR	1.000 <T	1.000 <T	.	1.000 <T	.	BDL
APR	BDL	BDL	.	BDL	.	1.000 <T
MAY	.	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	1.000 <T	.	BDL	.	1.000 <T
AUG	1.000 <T	1.000 <T	.	BDL	.	3.000 <T
OCT	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
NOV	!!S	1.000 <T	.	1.000 <T	.	BDL
	.	.	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
DEC	!!S	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
PHENOLICS (UG/L)	PHENOLICS	.	DET'N LIMIT = 0.2		GUIDELINE = 2.00 (A3)	
FEB	4.600	4.000	.	.	.	.
MAR	3.200	2.400	.	.	.	.
APR	5.200	4.600	.	.	.	.
MAY	.	1.600	.	.	.	.
JUN	1.600	1.200	.	.	.	.
JUL	1.200	1.200	.	.	.	.
AUG	1.200	.600 <T	.	.	.	.
OCT	2.800	1.400	.	.	.	.
	1.000	1.000	.	.	.	.
NOV	INR	INR	.	.	.	.
	1.000	1.000	.	.	.	.
DEC	INR	INR	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
VOLATILES						
TOLUENE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 24.0 (B4)	
FEB	BDL	.100 <T	.	.100 <T	.	.100 <T
MAR	.100 <T	.150 <T	.	.100 <T	.	.200 <T
APR	BDL	BDL	.	BDL	.	.200 <T
MAY	.	BDL	.	BDL	.	.100 <T
JUN	BDL	.050 <T	.	.050 <T	.	.150 <T
JUL	BDL	.150 <T	.	.150 <T	.	.200 <T
AUG	BDL	.050 <T	.	.100 <T	.	.050 <T
OCT	BDL	BDL	.	BDL	.	.050 <T
	BDL	BDL	.	.	.	.
NOV	.050 <T	BDL	.	.100 <T	.	BDL
	.	.	.	.050 <T	.	.100 <T
	BDL	BDL	.	.	.	.
DEC	.	.250 <T	.	INR	.	.400 <T
ETHYLBENZENE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 2.4 (B4)	
FEB	BDL	BDL	.	.050 <T	.	BDL
MAR	.050 <T	.050 <T	.	BDL	.	.050 <T
APR	BDL	BDL	.	BDL	.	.050 <T
MAY	.	BDL	.	.050 <T	.	.050 <T
JUN	BDL	BDL	.	BDL	.	.050 <T
JUL	BDL	.050 <T	.	.100 <T	.	.050 <T
AUG	BDL	.050 <T	.	.050 <T	.	.050 <T
OCT	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
NOV	BDL	BDL	.	BDL	.	.050 <T
	.	.	.	BDL	.	.050 <T
	BDL	BDL	.	.	.	.
DEC	.	8.950	.	INR	.	12.000
M-XYLENE (UG/L)				DET'N LIMIT = .100	GUIDELINE = 300 (B4)	
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	.100 <T
APR	BDL	BDL	.	BDL	.	.200 <T
MAY	.	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	.100 <T
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	.200 <T	.	.200 <T	.	.100 <T
OCT	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
NOV	BDL	BDL	.	BDL	.	BDL
	.	.	.	BDL	.	.100 <T
	BDL	BDL	.	.	.	.
DEC	.	39.500 RMP	.	INR	.	52.700 RMP
O-XYLENE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 300 (B4)	
FEB	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAR	BDL	.050 <T	.	BDL	.	.050 <T
APR	BDL	BDL	.	BDL	.	.100 <T
MAY	.	BDL	.	BDL	.	.050 <T
JUN	BDL	.050 <T	.	BDL	.	.100 <T
JUL	BDL	BDL	.	.050 <T	.	.050 <T
AUG	BDL	.100 <T	.	.100 <T	.	.050 <T
OCT	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
NOV	BDL	BDL	.	BDL	.	.050 <T
	.	.	.	BDL	.	.100 <T
	BDL	BDL	.	.	.	.
DEC	.	15.950	.	INR	.	19.250
STYRENE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 46.5 (D2)	
FEB	BDL	BDL	.	.200 <T	.	.100 <T
MAR	.400 <T	.400 <T	.	.200 <T	.	.200 <T
APR	.050 <T	BDL	.	BDL	.	.200 <T
MAY	.	.150 <T	.	.200 <T	.	.200 <T
JUN	BDL	BDL	.	.200 <T	.	.250 <T
JUL	BDL	.200 <T	.	.500 <T	.	.200 <T
AUG	BDL	.100 <T	.	.200 <T	.	.100 <T
OCT	BDL	BDL	.	BDL	.	BDL
	BDL	.100 <T	.	.	.	.
NOV	BDL	BDL	.	.100 <T	.	.050 <T
	.	.	.	.100 <T	.	.100 <T
	BDL	BDL	.	.	.	.
DEC	.	BDL	.	INR	.	.050 <T
CHLOROFORM (UG/L)				DET'N LIMIT = .100	GUIDELINE = 350 (A1+)	
FEB	BDL	99.800	.	73.000	.	74.600
MAR	BDL	105.000	.	94.000	.	100.000
APR	BDL	97.600	.	97.600	.	103.400
MAY	.	78.800	.	70.600	.	76.800
JUN	BDL	136.000	.	121.000	.	130.000
JUL	.300 <T	143.000	.	146.000	.	150.000
AUG	BDL	130.000	.	125.000	.	124.000
OCT	BDL	92.400	.	93.300	.	97.400
	BDL	126.200	.	.	.	.
NOV	BDL	93.300	.	55.900	.	94.400
	.	.	.	114.600	.	117.300
	BDL	84.500	.	.	.	.
DEC	.	97.900	.	INR	.	92.500
111, TRICHLOROETHANE (UG/L)				DET'N LIMIT = .020	GUIDELINE = 200 (D1)	
FEB	BDL	BDL	.	BDL	.	BDL
MAR	.020 <T	BDL	.	BDL	.	.020 <T
APR	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	.	BDL	.	BDL	.	BDL
JUN	.080 <T	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
NOV	.040 <T	BDL	.	BDL	.	BDL
	.	.	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
DEC	.	BDL	.	INR	.	BDL
DICHLOROBROMOMETHANE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 350 (A1+)		
FEB	BDL	3.000	.	2.450	.	2.400
MAR	BDL	3.200 APS	.	2.700	.	2.850
APR	BDL	2.100	.	2.100	.	2.250
MAY	.	2.200	.	2.300	.	2.150 APS
JUN	BDL	3.150	.	2.700	.	2.650
JUL	BDL	2.000	.	2.700	.	2.800
AUG	BDL	2.600	.	2.650	.	2.750
OCT	BDL	2.650 SPS	.	2.650 SPS	.	2.850 SPS
	BDL	3.050	.	.	.	.
NOV	BDL	2.850	.	2.150	.	2.800
	.	.	.	2.800	.	2.850
	BDL	2.600	.	.	.	.
DEC	.	2.700	.	INR	.	2.700
CHLORODIBROMOMETHANE (UG/L)				DET'N LIMIT = .100 GUIDELINE = 350 (A1+)		
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	.	BDL	.	BDL	.	BDL
JUN	BDL	.200 <T	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	.100 <T
AUG	BDL	BDL	.	BDL	.	BDL
OCT	BDL	.200 <T	.	.100 <T	.	.100 <T
	BDL	BDL	.	.	.	.
NOV	BDL	BDL	.	BDL	.	BDL
	.	.	.	BDL	.	.100 <T
	BDL	.500 <T	.	.	.	.
DEC	.	BDL	.	INR	.	.100 <T
T-CHLOROETHYLENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 10.0 (C2)		
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	.	.050 <T	.	.050 <T	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM FORT FRANCES WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
NOV	BDL	BDL	.	BDL	.	BDL
	.	.	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
DEC	.	BDL	.	INR	.	BDL
1,4 DICHLOROBENZENE (UG/L)				DET'N LIMIT = .100	GUIDELINE = 5.0 (B1)	
FEB	BDL	.100 <T	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	.	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
	.100 <T	BDL	.	.	.	.
NOV	BDL	BDL	.	BDL	.	BDL
	.	.	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
DEC	.	BDL	.	INR	.	BDL
TOTL TRIHALOMETHANES (UG/L)				DET'N LIMIT = .500	GUIDELINE = 350 (A1)	
FEB	BDL	102.800	.	75.450	.	77.000
MAR	BDL	108.200	.	96.700	.	102.850
APR	BDL	99.700	.	99.700	.	105.650
MAY	.	81.000	.	72.900	.	78.950
JUN	BDL	139.350	.	123.700	.	132.650
JUL	BDL	145.000	.	148.700	.	152.900
AUG	BDL	132.600	.	127.650	.	126.750
OCT	BDL	93.250	.	96.050	.	100.350
	BDL	129.250	.	.	.	.
NOV	BDL	96.150	.	58.050	.	97.200
	.	.	.	117.400	.	120.250
	BDL	87.600	.	.	.	.
DEC	.	100.600	.	INR	.	95.150

TRACE LEVELS OF TOLUENE ARE LABORATORY ARTIFACTS DERIVED FROM THE ANALYTICAL METHODOLOGY.

TRACE LEVELS OF STYRENE ARE CONSIDERED TO BE LABORATORY ARTIFACTS RESULTING FROM THE LABORATORY SHIPPING CONTAINERS.

Table 6

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
BACTERIOLOGICAL			
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0	500/ML (A1)
P/A BOTTLE		0	0 (A1*)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100mL (A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
CHLOROAROMATICS			
HEXACHLOROBUTADIENE	NG/L	1.000	450. (D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000 (D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000 (D4)
HEXACHLOROBENZENE	NG/L	1.0	10. (C1)
HEXACHLOROETHANE	NG/L	1.000	1900. (D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A
PENTACHLOROBENZENE	NG/L	1.000	74000 (D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,6,A-TRICHLOROTOLUENE	NG/L	5.000	N/A
CHLOROPHENOLS			
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A
2,3,5,6-TETRACHLOROPHENOL	NG/L	50.	N/A
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000 (D4)
2,4,6-TRICHLOROPHENOL	NG/L	50.	2000. (B4)
PENTACHLOROPHENOL	NG/L	50.	30000. (B4)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD PH	DMSNLESS	N/A	6.5-8.5 (A4)
FIELD TEMPERATURE	^{o}C	N/A	<15 ^{o}C (A1)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	.200	30-500 (A4)
CALCIUM	MG/L	.100	100. (F2)
CYANIDE	MG/L	.001	.20 (A1)
CHLORIDE	MG/L	.200	250. (A3)
COLOUR	TCU	.5	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.	400. (F2)
FLUORIDE	MG/L	.01	2.4 (A1)
HARDNESS	MG/L	.50	80-100 (A4)
MAGNESIUM	MG/L	.05	30. (F2)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DMSNLESS	N/A	6.5-8.5(A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40(F2)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)
METALS			
ALUMINUM	UG/L	.050	100. (A4)
ANTIMONY	UG/L	.050	10. (F3)
ARSENIC	UG/L	.050	50. (A1)
BARIUM	UG/L	.020	1000. (A1)
BORON	UG/L	.200	5000. (A1)
BERYLLIUM	UG/L	.010	0.20 (H)
CADMIUM	UG/L	.050	5.0 (A1)
COBALT	UG/L	.020	1000. (H)
CHROMIUM	UG/L	.100	50. (A1)
COPPER	UG/L	.100	1000. (A3)
IRON	UG/L	5.0	300. (A3)
MERCURY	UG/L	.01	1.0 (A1)
MANGANESE	UG/L	.050	50. (A3)
MOLYBDENUM	UG/L	.020	500. (H)
NICKEL	UG/L	.100	50. (F3)
LEAD	UG/L	.020	50. (A1)
SELENIUM	UG/L	.200	10. (A1)
SILVER	UG/L	.020	50. (A1)
STRONTIUM	UG/L	.100	2000. (H)
THALLIUM	UG/L	.010	13. (D4)
TITANIUM	UG/L	.100	N/A
URANIUM	UG/L	.020	20. (A2)
VANADIUM	UG/L	.020	100. (H)
ZINC	UG/L	.020	5000. (A3)
PHENOLICS			
PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0 (A3)
PESTICIDES & PCB			
ALDRIN	NG/L	1.0	700. (A1)
AMETRINE	NG/L	50.	300000. (D3)
ATRAZINE	NG/L	50.	60000. (B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700. (G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300. (G)
GAMMA HEXACHLOROCYCLOHEXANE(LINDANE)	NG/L	1.0	4000. (A1)
ALPHA CHLORDANE	NG/L	2.0	7000. (A1)
GAMMA CHLORDANE	NG/L	2.0	7000. (A1)
BLADEX	NG/L	100.	10000. (B3)
DIELDRIN	NG/L	2.0	700. (A1)
METHOXYCHLOR	NG/L	5.0	900000. (B1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000. (D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000. (D4)
ENDRIN	NG/L	4.0	200. (A1)
ENDOSULFAN SULPHATE(THIODAN SULPHATE)	NG/L	4.0	N/A
HEPTACHLOR EPOXIDE	NG/L	1.0	3000. (A1)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE	
HEPTACHLOR	NG/L	1.0	3000.	(A1)
METOLACHLOR	NG/L	500.	50000.	(B3)
MIREX	NG/L	5.0	N/A	
OXYCHLORDANE	NG/L	2.0	N/A	
O,P-DDT	NG/L	5.0	30000.	(A1)
PCB	NG/L	20.0	3000.	(A2)
O,P-DDD	NG/L	5.0	N/A	
PPDDE	NG/L	1.0	30000.	(A1)
PPDDT	NG/L	5.0	30000.	(A1)
ATRATONE	NG/L	50.	N/A	
ALACHLOR	NG/L	500.	35000.	(D2)
PROMETONE	NG/L	50.	52500.	(D3)
PROPAZINE	NG/L	50.	16000.	(D2)
PROMETRYNE	NG/L	50.	1000.	(B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000.	(B2)
SIMAZINE	NG/L	50.	10000.	(B3)
POLYAROMATIC HYDROCARBONS				
PHENANTHRENE	NG/L	10.0	N/A	
ANTHRACENE	NG/L	1.0	N/A	
FLUORANTHENE	NG/L	20.0	42000.	(D4)
PYRENE	NG/L	20.0	N/A	
BENZO(A)ANTHRACENE	NG/L	20.0	N/A	
CHRYSENE	NG/L	50.0	N/A	
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A	
BENZO(E)PYRENE	NG/L	50.0	N/A	
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A	
PERYLENE	NG/L	10.0	N/A	
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A	
BENZO(A)PYRENE	NG/L	5.0	10.	(B1)
BENZO(G,H,I)PERYLENE	NG/L	20.0	N/A	
DIBENZO(A,H)ANTHRACENE	NG/L	10.0	N/A	
INDENO(1,2,3-C,D)PYRENE	NG/L	20.0	N/A	
BENZO(B)CHRYSENE	NG/L	2.0	N/A	
CORONENE	NG/L	10.0	N/A	
SPECIFIC PESTICIDES				
TOXAPHENE	NG/L	N/A	5000.	(A1)
2,4,5-TRICHLOROBUTYRIC ACID (2,4,5-T)	NG/L	50.	200000.	(B4)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000.	(A1)
2,4-DICHLORORPHENOXYBUTYRIC ACID	NG/L	200.	18000.	(B3)
2,4-D PROPIONIC ACID	NG/L	100.	N/A	
DICAMBA	NG/L	100.	120000.	(B1)
PICLORAM	NG/L	100.	190000.	(B3)
SILVEX (2,4,5-TP)	NG/L	50.	10000.	(A1)
DIAZINON	NG/L	20.	20000.	(B1)
DICHLOROVOS	NG/L	20.	N/A	
DURSBAN	NG/L	20.	N/A	
ETHION	NG/L	20.	35000.	(G)
GUTHION(AZINPHOSMETHYL)	NG/L	N/A	20000.	(B1)
MALATHION	NG/L	20.	190000.	(B1)
MEVINPHOS	NG/L	20.	N/A	
METHYL PARATHION	NG/L	50.	7000.	(A1)
METHYLTRITHION	NG/L	20.	N/A	
PARATHION	NG/L	20.	50000.	(B1)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
PHORATE (THIMET)	NG/L	20.	2000. (B3)
RELDAN	NG/L	20.	N/A
RONNEL	NG/L	20.	N/A
AMINOCARB	NG/L	N/A	N/A
BENONYL	NG/L	N/A	N/A
BUX (METALKAMATE)	NG/L	2000.	N/A
CARBOFURAN	NG/L	2000.	90000. (B1)
CICP (CHLORPROPHAM)	NG/L	2000.	350000. (G)
DIALLATE	NG/L	2000.	30000. (H)
EPTAM	NG/L	2000.	N/A
IPC	NG/L	2000.	N/A
PROPOXUR (BAYGON)	NG/L	2000.	90000. (G)
SEVIN (CARBARYL)	NG/L	200.	90000. (B1)
SUTAN (BUTYLATE)	NG/L	2000.	245000. (D3)
VOLATILES			
BENZENE	UG/L	.050	5.0 (B1)
TOLUENE	UG/L	.050	24.0 (B4)
ETHYLBENZENE	UG/L	.050	2.4 (B4)
PARA-XYLENE	UG/L	.100	300. (B4)
META-XYLENE	UG/L	.100	300. (B4)
ORTHO-XYLENE	UG/L	.050	300. (B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0 (D1)
ETHLYENE DIBROMIDE	UG/L	.05	.05 G)
METHYLENE CHLORIDE	UG/L	.500	50. (B1)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	70. (D5)
1,1-DICHLOROETHANE	UG/L	.100	N/A
CHLOROFORM	UG/L	.100	350. (A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200. (D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0 (D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0 (B1)
1,2-DICHLOROPROPANE	UG/L	.050	6.0 (D5)
TRICHLOROETHYLENE	UG/L	.100	50. (B1)
DICHLOROBROMOMETHANE	UG/L	.050	350. (A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60(D4)
CHLORODIBROMOMETHANE	UG/L	.100	350. (A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0 (C2)
BROMOFORM	UG/L	.200	350. (A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17(D4)
CHLOROBENZENE	UG/L	.100	60. (D5)
1,4-DICHLOROBENZENE	UG/L	.100	1.0 (B4)
1,3-DICHLOROBENZENE	UG/L	.100	130. (G)
1,2-DICHLOROBENZENE	UG/L	.050	3.0 (B4)
TRIFLUOROCHLOROTOLUENE	UG/L	.100	N/A
TOTAL TRIHALOMETHANES	UG/L	.500	350. (A1)
STYRENE	UG/L	.05	140. (D5)